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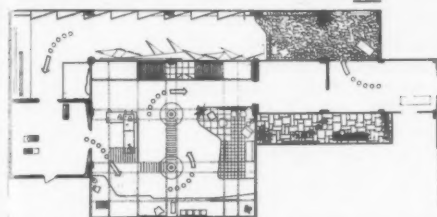
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B.D.I

MARGINALIA

Exhibition at Barcelona

The Grupo R is carrying on its valiant fight for modern architecture on the Pyrenean peninsula. The plan and photographs on this page illustrate an exhibition recently held.



Its subject was industrial products useful to the architect. There is a shortage of these in a country where normally the windows of a block of flats or an office building are still made singly by the joiner. The display technique is that established over here by



the MARS show of 1938, and if such a parallel with what lies back 15 years comes to mind in looking at the Barcelona exhibition, that stage in England or an even earlier one is



indeed what Barcelona, although the most progressive city of Spain, seems now to have reached. It is a curious situation, and the Grupo R makes no doubt the most of its limited opportunities.

Park and Garden Design

The ever-enterprising York Institute of Architectural Study proposes, this September, to break into a field of activity which has hitherto been woefully inadequately studied—the Design of Public Parks and Gardens.

The subject has hitherto been peripheral to Landscape design on the one hand and playing-field layout on the other, the resulting no-man's land having been occupied, with usually gratifying results, by the horticulturalists and usually squalid ones by the providers of seats, shelters and other physical amenities. The aim of the York course, which will run from the 6th to the 11th September, 1954, is to bring all the various branches of Park design and management together, with an excellent body of lecturers under the general direction of Dr. William Singleton, and if the resultant view of park design should prove to be composite, rather than the unified whole for which one hopes, a great achievement will still remain in the creation of a view of any sort. Once the subject has been brought into the open, and seen as one with its own special problems, there will be some chance for it to summon up the creative thinking it needs, and to deliver us from the rule-of-thumb practices and visual sloth which have led to the tyranny of municipal rustic and other cut-price styles.

Application forms, and other information may be had, as with all activities of the York Institute, from the Secretary, St. Anthony's Hall, York.

The Art of Re-issuing

The Pleasures of Architecture, by Clough and Amabel Williams-Ellis, first published in 1924, was one of the significant gestures in that gentlemanly revolution by which the Common Reader was turned from Ruskinian standards of architectural judgement toward a new concept, in which the Pleasure Principle was discreetly combined with a whiff of Mediterranean inspiration. *The Architecture of Humanism* was another representative of this Norman Douglas approach to the tectonic arts, the Eclecticism of Howard Robertson's British Pavilion at the *Exposition des Arts Decoratifs* was its visible expression, Bankers' Georgian and Post-Office Queen Anne are among its children, Port Meirion is, very properly, its permanent monument.

Pleasures of Architecture had gone through four editions by 1930 and then no more, for the times had changed, but its influence had been enormous, and, like *The Architecture of Humanism* and Sir Kenneth Clark's *Gothic Revival*, it had shaped the taste of a generation. It had become so much a part of its period that its re-issue presented problems of an unusual nature, centering round the key question of how far such a book remains a living document, how far a dead monument—to revise or not to revise. In the case of *The Architecture of Humanism* the problem had been by-passed by the author's demise; in the case of the *Gothic Revival* Sir Kenneth let his original text stand, and undermined it with a sap-work of brilliant footnotes, thus having the best of both worlds. The Williams-Ellises have opted for revision, and have brought the book up to date as far as the Festival Hall, Stevenage, Bruno Zevi and Time-Life, thus making available a gentlemanly appreciation of the least gentlemanly period of English architecture. The purport of the book is thereby subtly changed, and it

has no doubt been launched on a long and useful career as a progressively modifiable standard work, like that durable period-piece, ever-changing yet ever *sui generis*, *The History of Architecture* by Sir Bannister Fletcher.



The new North East Essex Technical College by the County Architect is illustrated on pages 94-98. The sculpture commissioned for the pedestal before the main entrance is illustrated here; it is called *Constellation* and is the work of Franta Belsky.

INTELLIGENCE

A Standing Committee to advise on special problems of felling and planting trees in the Royal Parks has been set up under the chairmanship of Sir William Taylor.

The Architectural Association is starting a post-graduate Department of Tropical Architecture in October. The director is E. Maxwell Fry.

The Minister of Works has invited artists to submit designs for six-fold screens to be used in British Embassies. Further details can be obtained from the Minister's Private Secretary, Lambeth Bridge House, S.E.1.

CORRESPONDENCE

Views of Scandinavia

To the Editors,

THE ARCHITECTURAL REVIEW,

SIRS,—An author must accept the reviews of his books without complaint *except* when he finds they misrepresent the contents or when they raise controversial arguments in which everyone has a right to join. Herr Paulsson's review of my book, 'Scandinavia,' does both. A great deal of misunderstanding about a book would be avoided if reviewers always began by telling the reader (i) what the book under review is all about, and (ii) what its purpose is.

The purpose of my book on Scandinavia is to give as much general information as possible about Sweden, Denmark and Norway in about 80,000 words—history, geography, economy, sociology, architecture and the arts—in order to provide the traveller to those countries with some useful background knowledge. The book, whatever its faults, is full of unsentimental facts and a survey of modern Scandinavian architecture is included in the text. Even if history is bunk, the past has

produced the present and my book attempts to show how and why.

Herr Paulsson is on the Left and he suggests that I am not merely a beastly bourgeois but a damned feudal aristocrat as well—or at least that I would like to be one. As a matter of fact he is half right. I would like to see the Welfare State in its present form abolished, and the whole working class (now including the bourgeoisie) liquidated. This can be done by liquidating work through the release from financial restrictions of the vast productive powers of modern technology. We could now all become aristocrats using machines as our slaves.

The twaddle that is talked about the Worker and the Common Man is sentimental and arises from a sense of guilt. (By sentimental I mean superficial, the tendency to be swayed by dishonest feeling rather than by honest thinking.) My philosophy and social-economic beliefs are clearly expressed at the end of my book and Herr Paulsson does not mention these. They are revolutionary and they accept the premise that the Welfare State, whether Scandinavian or otherwise, is a Slave State secretly dominated by the Central Banks and founded on the historical forces of puritanism and what those forces have produced—the fear of pleasure, of leisure and of personal, creative freedom.

I am, etc.,

London.

ERIC DE MARÉ.

Crystallographic Twins

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—Quite apart from the enjoyment of the contents of the AR, I find that the high spot of the month is that first glimpse of the cover, as it slides out of its innocent cardboard carton—one never knows what to expect!

It occurred to me that you might be interested in the enclosed photograph as a possible cover design. It is one of a series which a neighbour of



mine, a Professor of Metallurgy, has recently hung on the wall of his staircase; the enclosure seemed to possess a more stimulating sense of pattern and texture than the others in the series. The dark diamond hole suggests a possible spot for the initials 'a r' picked out in a white outline.

The following paragraph might be useful in support of the photograph:—

'The photograph shows, at approximately 200 magnifications, the effect produced by the impression of a "Vickers" diamond on a

polished uranium metal surface. The impression area is surrounded by "crystallographic twins" (horizontal lines), with "slip lines" (diagonal lines) to one side—the whole area being covered with metal oxide markings (blobs), which are emphasized by polishing.'

Yours, etc.,

Birmingham.

IAN H. ABBOTT.

Dudok

To the Editors

THE ARCHITECTURAL REVIEW

SIRS,—The article by R. Furneaux Jordan in the April, 1954, issue of the ARCHITECTURAL REVIEW on Dudok seems to me to give a false picture of the role of Dudok in the history of contemporary architecture. Mr. Jordan is making two points, that the influence of Dudok has been unfortunate in English architecture; and that he is not a 'modernist' because he fails to take account of what Mr. Jordan seems to feel to be the significant new dimension of modern architecture, to wit, 'penetration.' Of the first point I cannot speak except to deplore Mr. Jordan's somewhat patronizing air, and his willingness to foster another's sins on one only remotely responsible for them. Of the second point, I should like to enter a dissenting opinion.

The choice of 'penetration,' of, as Mr. Jordan puts it, 'awareness externally of depth and interior' would hardly seem a significant element of contemporary architecture. Think of Lever House, where the glass walls are mirrors—no less solid for that; of Lloyd Wright's administration building for the Johnson Wax Co., where absolutely no 'penetration' in the sense Mr. Jordan describes interferes with the solid brick and pyrex glass walls; of the Royal Festival Hall, where the play of volumes rarely suggest the interior; of Mies Van der Rohe's Lake Shore Apartments where the emphasis on the decorative aspects of the structure and the uniformity of treatment throughout calls attention to the surface façade as few buildings have done since the Renaissance.

And further, is 'penetration' so new? Does 'awareness' require an actual view of the interior as Mr. Jordan seems to suggest. Is not a view of the exterior of a Borromini church suggestive of the interior? How would one apply this new dimension to the Brooklyn Bridge or the Eiffel Tower? In sum, then, may I suggest that the case for 'penetration' as a new dimension is not fully proven.

Yours, etc.,

New York.

STANLEY M. SHERMAN.

[Mr. Furneaux Jordan writes: 'I had no intention of fostering the sins of Dudok's disciples upon Dudok; that he was unfortunate in his disciples, and that his work lent itself too easily to facile imitation is, however, a fact that had to be stated.'

"Penetration" or "transparency"—as a manifestation of the structural potentiality of the Modern Movement—is not, as Mr. Sherman rightly says, to be found in every modern building. In some examples, however, such as L'Unité building or the Farnsworth House, it is taken to the point where the "wall" vanishes altogether. It seems to me that this conception of the window as a transparent area of the building, as opposed to being a mere hole in a wall, is the most significant symptom of the structural, as opposed to merely stylistic, nature of Modernism. It is also something that Dudok either failed to recognize or dislike. That fact does not make him a less sensitive artist; it may make him a less significant figure in the history books.')

Abstract Art

To the Editors,

THE ARCHITECTURAL REVIEW

SIRS,—Why has abstract art become the commercial and academic standard of all countries?

It is because in troubled times nothing is safer than saying nothing. What could be safer than painting or sculpting or writing 'from within.' What could be more transigent than being safely subjective and non-objective? The utility of an anaesthetized intelligentsia has been recognized by the chief patrons of art, our eleemosynary universities, museums, and foundations. . . .

The pitchpipe of change is sounding, and it may be said in some not too distant future that architecture should be the master, and not the slave of construction and exterior necessity, and that we may prefer richness to simplicity, the Graeco-Roman tradition to primitivism.

If a new building is to be built on the Grand Canal what style should it be in? What is the style always castigated by critics? What is the style that calls forth such epithets as 'mere pastiche', 'derivative', 'eclectic', 'dull!!' What is the style that due to its lack of sensationalism in the tactful preservation of ensembles, and above all by its difficulty, holds the smallest appeal for the commercial and academic architect? What is the style that in all respects is revolutionary in that it substitutes a new architectural policy for an old? It is the Grand Design.

If the City of Venice desires to give real proof of its aesthetic vitality, let it build in the Grand Design. Let this new building be decorated by artists who knowing no fear re-introduce the beauty of the human form in all its infinite variety into painting and sculpture. . . .

I am, etc.,

JOHN B. BAYLEY.

Cambridge, Mass.

Correction

In the article GIBBS: *A Bicentenary Review of his Architectural Sources*, by S. Lang, in the July issue reference in the captions on page 26 to illustrations o, 22, p, q, 23, r and 24 should have read as follows:

'St. Mary's steeple, o, bears a distinct likeness to several towers designed for St. Peter, Rome, 22, notably to this one by Rainaldi.'

'The apse of St. Mary, p, and particularly the vault, q, and its decoration are inspired by Fontana's SS. Apostoli, 23.'

'The ceiling ornamentation of St. Mary, r, though more straightforward than the Roman prototype is nevertheless closely related to Borromini's design for the ceiling of the entrance to the Lateran Palace, 24.'

ACKNOWLEDGMENTS

COVER: Egon Moller-Nielsen. FRONTISPIECE: Kenneth Browne. MARGINALIA, page 71: Sculpture, Essex County Council. FLATS IN PIMLICO, pages 79-83: John R. Pantlin; TECHNICAL COLLEGE AT COLCHESTER, pages 94-98: 1, 3, 5, 9-11, Essex Education Committee; 2, 4, 6-8, Galwey, Arphot. HEALTH CENTRE AT CORBY, pages 99-101: Galwey, Arphot. CANADIAN GOTHIC, pages 102-108: National Film Board, National Gallery of Canada. CURRENT ARCHITECTURE, pages 109-112: *Secondary School at Feltham*: John R. Pantlin; *Restaurant in Wigmore Street*: John R. Pantlin; *Flats at Catford*: John R. Pantlin. MISCELLANY, pages 115-124: *Exhibitions*: 1, John R. Pantlin, 2, Arts Council of Great Britain, 6, Marc Vaux; *World*: Robin Boyd; *Lettering*: 1, 5, 9, 12, de Wolfe, Arphot; 2, Galwey, Arphot; 3, 8, Toomey, Arphot; 4, Sam Lambert; 7, McCallum, Arphot; 10, John R. Pantlin; 11, A. Cracknell; *Play Sculpture*: 1, 2, Peter Dorp & E. Chart; 3, 5, 6, Tore Johnson; 4, 7, Atelje Sundahl; 9, Hans Hammerskiöld; *SKILL*, pages 125-140, *Interiors*: 1, 2, John R. Pantlin; 3, 4, Wainwright; *Design Review*: Toomey, Arphot; *Techniques*: 2, Toomey, Arphot.

The Slow, the recently completed shopping centre in the Mark Hall neighbourhood of Harlow New Town, is an admirable demonstration of Townscape in practice. Whatever deficiencies in urbanity may be apparent in other New Town shopping centres, or even in other parts of Harlow, the Slow is free of them, and, as Kenneth Browne's drawing on the opposite page shows, provides the essential urban amenities of enclosure, activity and variety—and a judicious arrangement of circulation, so that it is neither an arterial ribbon flanked by irrelevant shops, nor a sterile precinct isolated from the realities of contemporary communications. Here motor-car and pedestrian meet and mingle, not chaotically, but constructively.

Colin Rowe

ROOTS

OF AMERICAN ARCHITECTURE: AN ANSWER TO MUMFORD'S ANALYSIS

The European architect must often feel that much of what he sees illustrated as the modern architecture of the North American continent bears as little relationship to the architecture which he envisages as the buildings of McKim, Mead and White, in their time, bore to those of the Renaissance. American buildings seem rarely to be carried to a state of three-dimensional conclusiveness and not often to be the results of extreme aesthetic effort. They are lacking in tension, they are without the purely formal virtuosity which typifies so much European endeavour, they are usually diagrammatic rather than developed. But such critical scruples apart, it remains beyond doubt that in the mid-century the North American continent offers the most adequate and comprehensive laboratory for the study of contemporary architecture. Unlike the European achievement of the 1920s and '30s this is not an architecture of isolated masterpieces. There are no Garches, no Pavillons Suisses, the ratio of major monuments to total production is low, but where unremarkable modern buildings abound they are presumably endorsed by popular taste, and with its revolution completed, modern architecture, universal and unnoticed, has ceased to be a manifesto and become simply architecture.

Whether or not this is a happy state of affairs is entirely a matter of preference, but it would seem that Americans have very well known what Europe has partly forgotten—that quality, apart from being a personal achievement, is also an attribute or result of quantity. What modern architecture in America has lost of plastic finesse, it has gained in physical perfection, what it has lost as a sophisticated art of private meaning, it has gained as the symbol of a communal vitality. It is for these reasons that any publication upon American architecture must enjoy a particular significance and it is as an explanation of

this situation that one turns to Lewis Mumford's recent book. Unfortunately his title is hardly a sufficient indication of its contents.

*Roots of Contemporary American Architecture** is in fact an anthology of thirty-seven essays dating from the mid-nineteenth century onwards, which are assumed to represent the principal critical traditions synthesized in the architecture of the present day. Arranged under seven headings, the first three groups of essays illustrate the continuing influence of the mid-century romantic-rationalist school, the emergence of regionalism, and the recognition of an aesthetic based upon the machine. The fourth is concerned with the architectural achievement of Chicago, while the fifth and sixth rather loosely comprise discussions of domestic architecture and the architect's social responsibilities. His seventh group Mr. Mumford has entitled *The Search for the Universal*.

Drawing largely upon contemporary documents, this book becomes, as its editor says, a documentary history of ideas, and believing that the individual essays present a self-explanatory sequence, he has attempted to confine his role of interpretation to a minimum. In doing so one might doubt whether he has been strictly fair either to himself or to his reader, since, however much interpretation may be abjured, it is present by inference in the actual choice of material, and despite his professed editorial aloofness it is clear that Mr. Mumford's material is selected so as to illustrate a point of view.

A first turning over of this book suggests that he has been too concerned to find for modern American architecture an immaculate and wholly correct ancestry; and one may be pardoned for doubting whether anything so vigorous and demonstrative as this architecture has shown itself to be could have emerged from antecedents of such unfailing respectability as those which these essays establish. The intellectual circles from which the contemporary American architectural conscience is allowed to be derived seem a little too well accredited to justify the healthy aberrations which from time to time it has displayed; and the overwhelmingly Puritan genealogy which is here proclaimed scarcely explains that unreserved and expansive self-confidence which typifies so much building activity in America.

This insistence upon wholly ethical origins has the effect of setting up a frame of reference, which while it facilitates criticism does so by the elimination of historical texture and contemporary paradox. It substitutes a mythology of modern architecture for a rationally convincing account of its evolution. Such a mythology, in which the extremes of eclectic depravity are sharply and cleanly contrasted against an architecture of high moral tone, very certainly has its place, but it has been too frequently publicized to be received yet again without embarrassment.

The constructions of later criticism have perhaps over-clarified the account of modern architecture's origins and it would seem that part of the value of publishing contemporary documents might have been in their re-establishing something of the *density* of history which a too partisan analysis has eliminated. After all, modern architecture is now sufficiently old to be able to examine even the Ecole des Beaux Arts with some degree of objectivity, and particularly where critical tabus have gathered thick, as around the discussion of the Chicago Fair, the notices of responsible visitors might have permitted a partial reassessment of a still unexplained architectural *volte-face*. It is for instance difficult to believe, as we are constantly asked, in the calculated apostasy of a whole generation of mid-Western architects. It is equally difficult to believe that Chicago's collapse in

* ROOTS OF CONTEMPORARY AMERICAN ARCHITECTURE: Lewis Mumford. Reinhold Publishing Corporation. 1952. \$7.

the face of academic invasion could have been so ignominious and complete if its architects had possessed the intellectual vigour and self-consciousness which is nowadays attributed to them. Louis Sullivan's remarks are no doubt still the best summary of the Fair, but it would have been interesting to have learned how so clairvoyant an observer as Frederick Law Olmsted explained his participation. A spectacle of architectural decadence, the Fair was a major event as regards city planning and paradoxically what appears today as aesthetic irresponsibility seems to have instigated a pattern of urbanistic order which supplied many American cities with what are still their finest deliberately organized visual effects. Distressing though these facts may be, their consequences cannot be overlooked in considering contemporary American architecture, and it would have been only just if in this anthology there had been included some contributions by representatives of the City Beautiful movement.

It is in such a case that this collection appears most completely as the reinforcement of an already somewhat worn historical stereotype, but since Mr. Mumford is concerned with illustrating the development of a creative nucleus of ideas such criticism is not completely relevant: his criteria of selection do not lie in history but rather in his conception of the American architecture of the present day.

Mr. Mumford is one of the most sensitive critics of the world we see about us; he has been one of the most energetic, sincere and completely devoted apologists of modern architecture in both the United States and Great Britain; a twentieth century Ruskin, he has educated a whole generation to the understanding of his enthusiasm and the appreciation of his prejudice. At some time all have experienced his influence and have emerged from it with a more developed perception, but the immensity of his achievement should not obscure the fact that his overwhelming interest has never been so much in great architecture as in a just social order, and from the apparently vanished age of liberalism he has retained the conviction that the presence of the second will automatically secure the first. Such may still be a fundamental belief of the modern movement, but if so, it becomes progressively less tenable, and in this case it leads Mr. Mumford to a preference for perpetually embryonic form. It causes him to condemn Le Corbusier for 'his historical innocence', to find the origins of Cubism in America, and to discover superlative architectural values in redwood.

Presented through the medium of these essays the contemporary American architectural scene becomes altogether too much a matter of cosiness and aspiration. One fails to recognize in it that vast, diversified and noisy theatre, constantly and indiscriminately stimulated by technological change. One sees nothing of that plenitude, that superabundance of reasonable quality. One looks around for the big operators, the neo-academics, the lunatic fringe. One perceives dimly the outlines of the empire of Mr. Wright, one looks around in vain for indications of that rival Chicago empire of Mies van der Rohe; but Mies and (more surprisingly) Gropius have been neatly kept off the stage.

No exposition of contemporary American architecture can claim to be complete where there are such omissions. It is a sign of the receptivity of American building that it can absorb, utilize and systematically develop personalities so divergent and opposed: and it is a sign of its aesthetic verve that it can permit distinct architectural schools systematically to approach culmination. In purging the American scene of its complexity, in subduing its competitive glitter, Mr. Mumford has presented only half a picture, and his

subject, incomplete, is also denatured.

He has not been led to this interpretation by any narrow ideological significance attached to the idea of a specifically American architecture. He is on the contrary convinced that architecture in the United States is most significantly American when part of 'a world wide community', but apparently he is not willing to allow this community to be one of idea. Rhetorically enquiring as to what is the American tradition in architecture Mr. Mumford offers the equivocal assertion that it is 'the modern tradition', and reading on it becomes clear that 'the modern tradition' at its most profound is a matter of practical empiricism informed by transcendentalist sociology. One has elsewhere been led to believe that modern architecture does possess a *dogmatic* core, and it is not easy to accept, as Mr. Mumford infers, that an architecture which is preoccupied with intellectual concepts is no more than a brittle formula, without, as he says, 'the qualities of a living art; ... at best a mask or a form of scenic decoration.'

A practical empiricism, such as Mr. Mumford endorses, may do 'justice to the time-bound, the local, the living and the subjective, and therefore the unique and the finally incalculable', but, however high-minded it may be, having no essential reference to a body of ideas, ultimately without the power of abstraction, it is lacking in the capacity to co-ordinate or crystallize. As a student of sociology and politics, Mr. Mumford is anxious to eliminate from the artistic process its formal result, and with him the consequences of artistic creation, rather than a successive series of completed states, seem to become the analogy of biological evolution. An intellectualism such as Mr. Mumford condemns necessarily ends in sterility, but a simple pragmatic individualism such as he apparently approves, by destroying the possibilities of knowledge, ends also in destroying the individual, since it removes his capacity to know himself.

Obviously both attitudes are necessary, and the real becomes no less so, and the ideal is not vitiated when they confront their opposites. Attitudes of deduction and induction, commitment and scepticism, dogma and doubt, fortunately for the critic or analyst, are essential components in any situation for it is out of these antitheses that any valid historical criticism must emerge, and by eschewing conflict, Mr. Mumford makes modern American architecture no more than a series of well-meaning intentions. It is intolerable to believe that any achievement so authentic could have been prompted by origins so sentimental and diffuse, and it is hard to assume that we are expected to understand it to be so.

Or is it indeed the case, and is this yet again the critical dilemma with which America seems always to provide its most sympathetic admirers?

FLATS AT PIMLICO SECTION TWO

ARCHITECTS

POWELL AND MOYA

Assistant Architect: S. P. Skinner

1. view from the south-west corner of the Westminster City Council's Churchill Gardens estate of the first two blocks of Section Two to be completed. This corner of the site is bounded by the Embankment and Westmorland Terrace.





2

FLATS AT PIMLICO: SECTION TWO



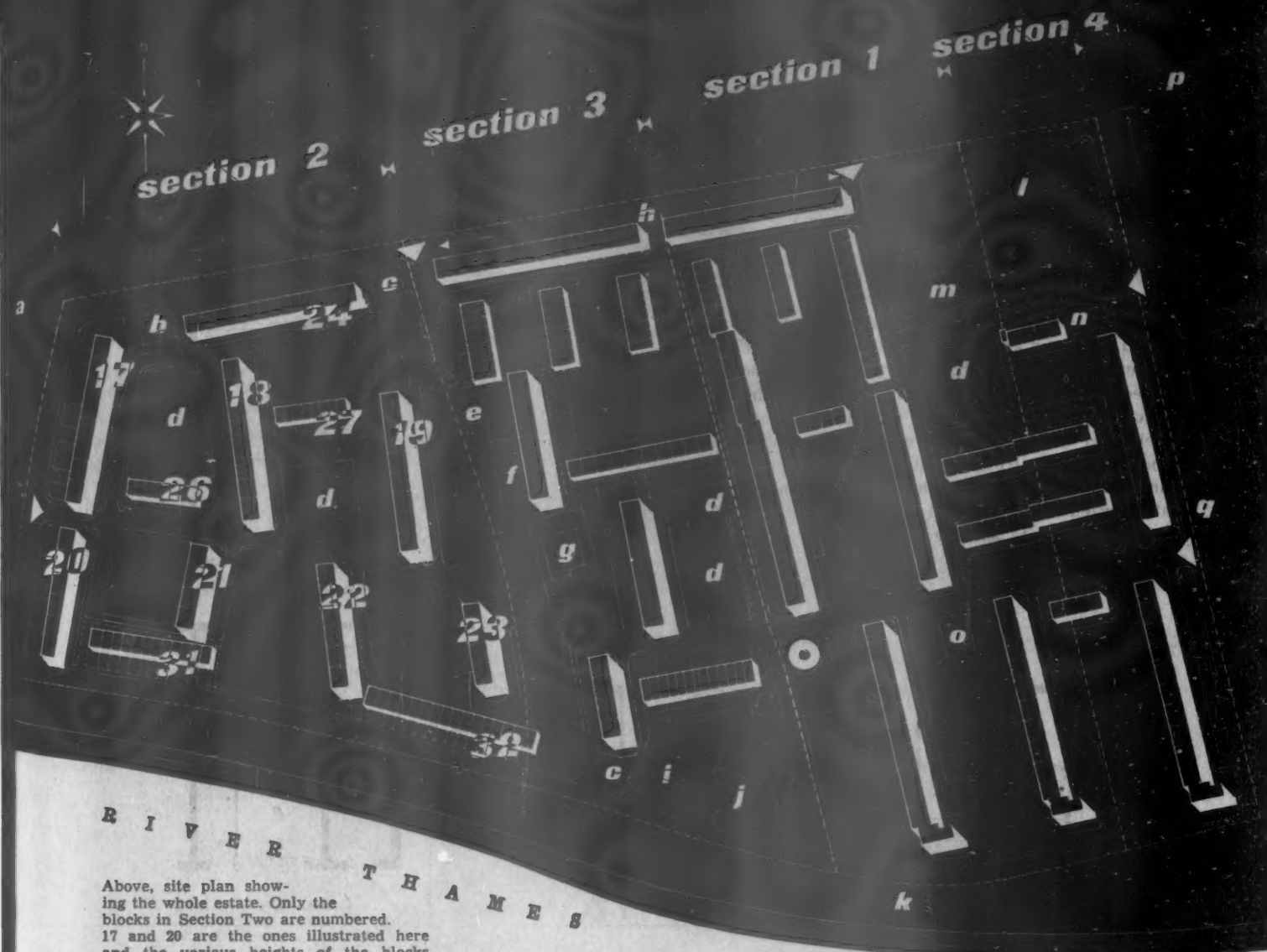
3

2 and 3, east and west elevations of a 10-storey block showing the long access balconies, and short private balconies.

Front doors on the access balconies are painted crimson. 4, view towards the riverside from one of the entrances.



4



Above, site plan showing the whole estate. Only the blocks in Section Two are numbered. 17 and 20 are the ones illustrated here and the various heights of the blocks are as follows:—

17-20	..	..	10 storeys
21 and 23	..	..	11 storeys
24	..	..	7 storeys
25 and 27	..	..	3-storey maisonettes
31 and 33	..	..	3-storey houses

Unless otherwise stated, all buildings in this bay have yet to be built.

Key: a, Westmorland Terrace. b, new pub. c, existing pub. d, playground. e, access hall. f, nursery school. g, primary school. h, shops. i, existing houses. j, existing church. k, Grosvenor Road. l, school. m, existing school. n, proposed service station. o, temporary access hall. p, Lupus Street. q, Claverton Street.

The Pimlico estate is being built in four sections. This is part of the second; the first has been illustrated previously*, and the third and fourth are not yet built. It is hoped to start on the third section in 1955, on the land separating the first two sections, and until it is built no impression can be gained of the estate as a whole. Modified requirements have caused so many changes in construction and appearance of the tall blocks in this section that these are in effect new designs.

The Westminster City Council required more and smaller flats to meet their housing needs, which meant that the lift and staircase access used in the first section, serving only two flats per floor, became uneconomic and has been replaced by balcony access. However, by restricting the balcony length and allowing no living rooms or bedrooms to be overshadowed, the disadvantages of balcony access are avoided. A relaxation of the LCC height regulations for rooms in flats, and the fact that ground floors are no longer raised 3 ft. above the

surrounding ground level has meant that the tall blocks, although now ten and eleven storeys high, are not appreciably taller than the nine-storey blocks of the first section. The western boundary is near the approach to Victoria bridge formed by the multiple railway lines running out of Victoria station, and the two blocks facing it have therefore been re-oriented so that none of the living rooms face west, at the same time acting as sound baffles for the rest of the site. The contract contains 302 flats and houses, four tall blocks, one three-storey block of one-room flats and a three-storey terrace of houses. The houses, for higher income groups, are designed with front pedestrian access from the main riverside road through their private gardens and traffic access on the north side.

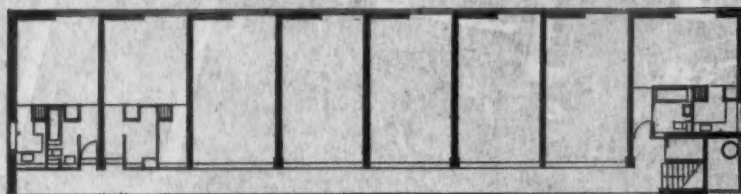
Balcony access has meant that the monolithic r.c. construction previously used for the external walls would be unsuitable because of the wide door and window openings. The external faces are therefore non-load bearing and the r.c. floor slabs are supported on

*See AR, February, 1951 and September, 1953.

r.c. end and party walls and on intermediate beams and columns. This is expressed outside, and the brickwork is a panel infilling of cavity construction, instead of being a veneer supported on exposed r.c. ledges, as in the earlier blocks. The outer leaf is buff flint lime bricks, as previously used, and the inner leaf is made up of 4 in. clinker blocks. Internally, partitions are of 2½ in. clinker blocks, laid on felt strips.

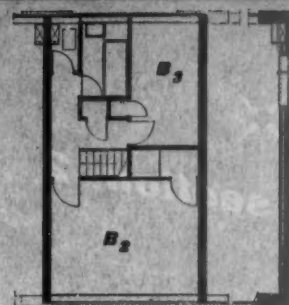
Exposed concrete surfaces are painted with chlorinated rubber based enamel paint (greenish grey) except the beam faces, which are left untreated; tank rooms are painted light grey and canopy soffits bright red. Balcony ironwork is black, and backs of private balconies are painted alternatively dark brown and dark Indian red. On access balconies, front doors are crimson, duct access panels and refuse chutes are olive green. Internal colours are generally white, light grey and pink, with white ceilings. The central heating and domestic hot water systems are provided by the District Heating System from Battersea power station, as in the first section†.

†See AR, October, 1951.

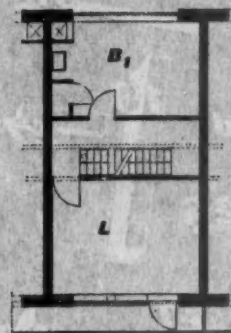


typical floor plan of 3-storey block (28)

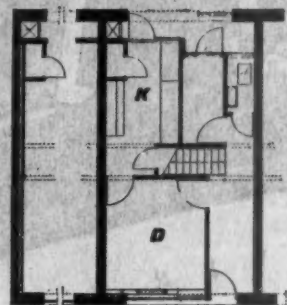
scale: 1/24 in. = 1 ft.



second floor plan

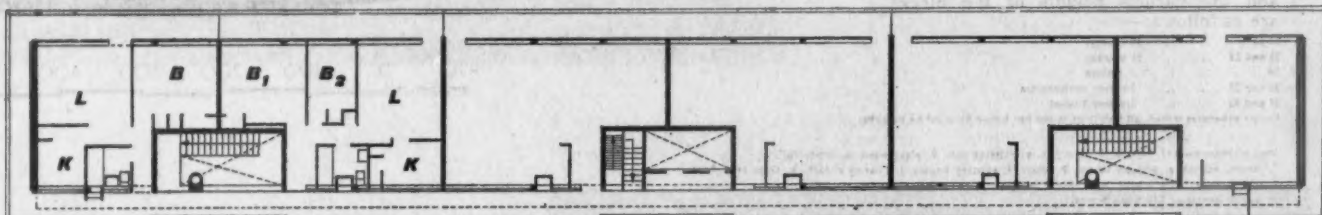


first floor plan

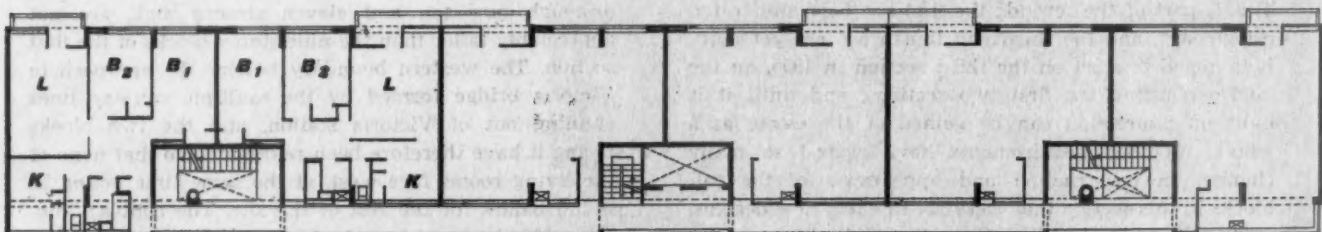


ground floor plan of terrace house (31)

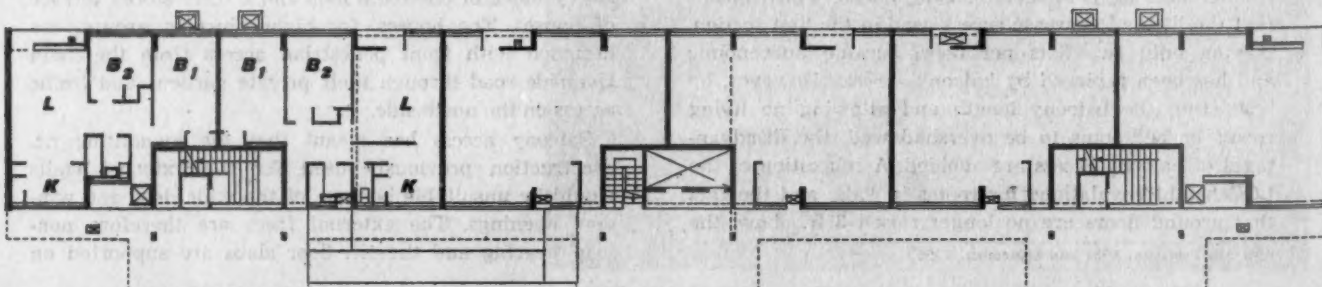
scale: 1/16 in. = 1 ft.



ninth floor plan



typical floor plan



ground floor plan of 19-storey block (29)

scale: 1/24 in. = 1 ft.

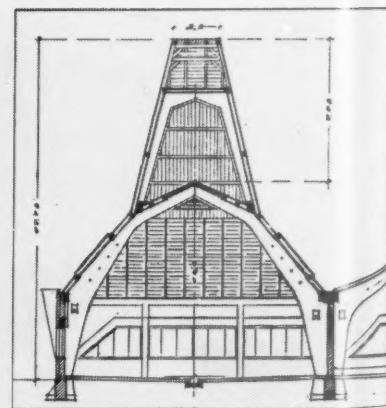
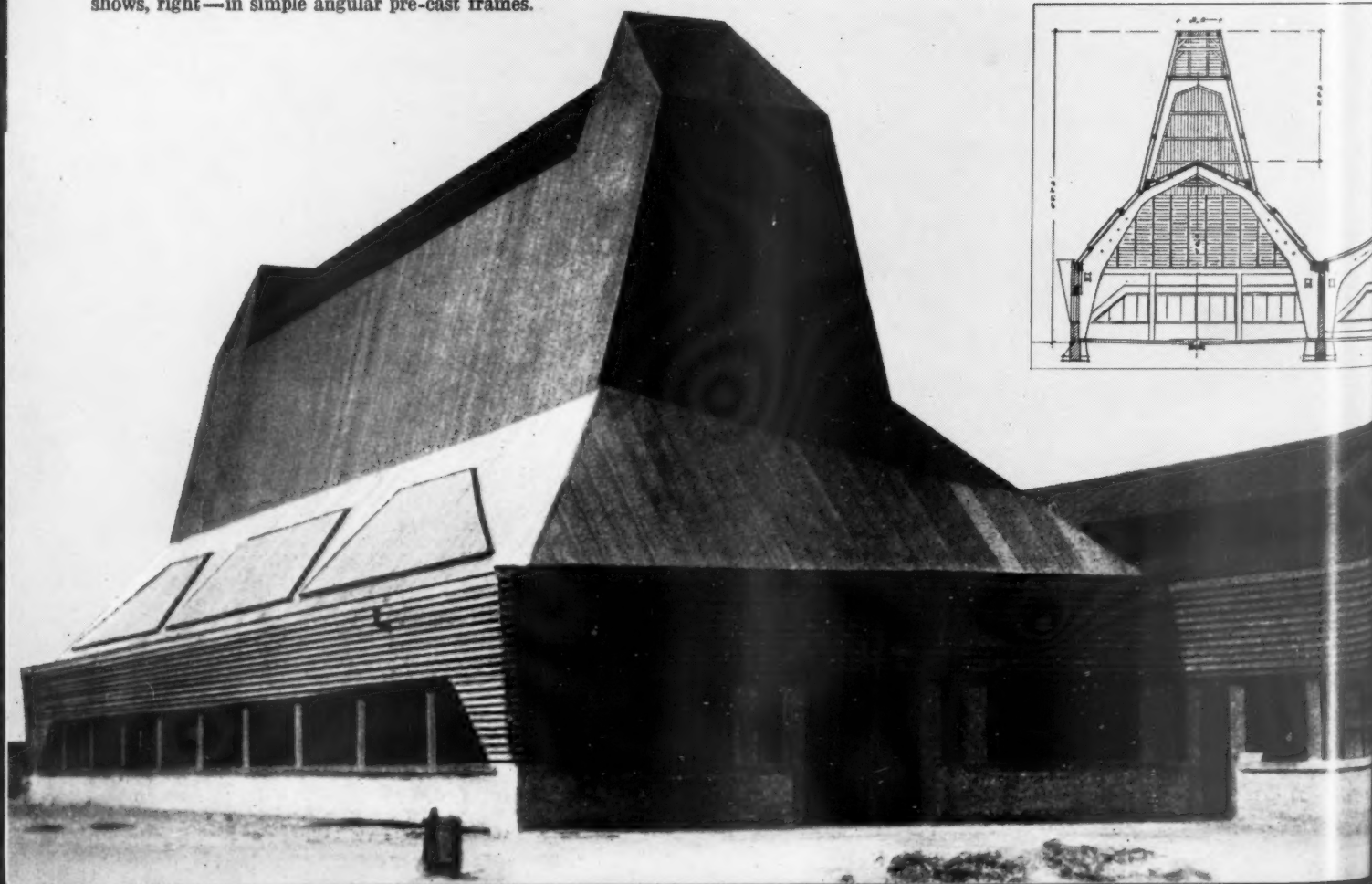
5, Gilbert House seen down Turpentine Lane and contrasted with Peabody Estate housing of the 1860's. 6, a close-up of the elevation of the other block; the backs of the private balconies are alternately dark brown and dark Indian red, and the doors are dark yellow.



FLATS AT PIMLICO, SECTION TWO



Contrary to accepted opinion, Erich Mendelsohn may be said to have ceased, rather than begun, to be an Expressionist in the early twenties. In the article which begins on the opposite page, Reyner Banham cites the case of the factory at Luckenwald, completed in 1924. Confronted with a real industrial problem, Mendelsohn abandoned the bulging plasticities of his imaginative sketches, above, and turned to a simple glyptic style, below, employing concrete, not in large moulded masses, but—as the section shows, right—in simple angular pre-cast frames.



Reyner Banham

MENDELSON

The large reproductions of a sketch for the Einstein Tower, and the short and baffled accompanying paragraphs, which have been all that most of the major international architectural periodicals have been able to produce as memorial notices to the talent of Erich Mendelsohn,* are a tribute to the myth which has been built around his name, rather than the buildings which he designed. His has been an extremely difficult achievement to assess, but the blanket description of *Expressionist* which is normally applied to his work has only made assessment more difficult. Like *Futurist*, the term *Expressionist* has become a dirty word in architectural criticism, and it serves nowadays as a mask for our unwillingness to pay attention to a whole group of architects who lie outside the respectable genealogy of the descent of the Spirit of the Modern Movement.

The term may with some certainty be applied to his work of about 1919, and the Einstein Tower is, indeed, a monument to that phase of Expressionism which reached its apotheosis in *Dr. Caligari*, but the differences between the first great doctor of the German Cinema, and *Dr. Mabuse*, the last, are not as great as those between the Mendelsohn of 1919 and the Mendelsohn of 1932. Like *Dr. Mabuse*, the last works of his German period seem, by implication, to reject Expressionism as the employment of the insane, and to substitute for it a more sensible and humane view of the world, and the aim of this article is to sketch in the stages by which this transformation was effected, and to suggest some of the causes which have obliterated this change of mind from the popular mythology of Modern Architecture.

The point of departure of any study of Mendelsohn must always be the well-known sketches of the War years, and the related series of sketches which followed the interruption of 1917-1919. These have made a major contribution to the myth, and seem to

* Born 1887, died September 15, 1953.

be regarded as a kind of master-key to the labyrinth of his imagination. But when one re-examines them one finds only that the labyrinth is more involved, and the imagination more diverse than one had supposed. They are not stylistically homogeneous, either among themselves or with his work of the early twenties, and it is in their stylistic aberrations that they are most revealing. The corpus of pre-1917 drawings contains, for instance, a whole series of rather pretty and feeble variations on themes which seem related to Hoffmann's *Palais Stoclet*, and another group which shows no signs of this classicized Art-Nouveau manner, but, drawn in heavy black brush-strokes, seems to depend on Max Berg and Fritz Hoyer.

However, elements from both these series—an Art Nouveau sense of linear decoration, a whiff of the Beaux Arts, a debt to the 'plastic' Expressionists of the previous generation—these elements do appear, dramatically metamorphosed, in the justly celebrated series of factory and warehouse projects which, to most of us, are typically Mendelsohn. But in this series there also appears a new element—an unmistakable tone of high Futurist excitement about the world of the machine. These projects are surely attempts to realize the Marinettian vision of *immensi cantieri tumultuanti*, and of the Futurist building which was to rise like *una macchina gigantesca* above the roaring abyss of the streets. And in Sant Elia's manifesto of 1914 one finds, most suggestively, a categorical demand for an architecture of ellipses and diagonals, since these forms are 'dynamic by their very nature, and are a thousand times more emotive than perpendiculars and horizontals.'

To these literary imperatives one may certainly add a shrewd appreciation of the expressive possibilities of Behrens's *Turbinenfabrik* and the *Galerie des Machines*, both of which Mendelsohn was later to praise in public utterances. But closer examination of the actual drawings will bring further interesting light to bear on his creative mind at this period. The powerful plastic sensibility, which shapes the aggressive forms of these projects, often models them in a manner which seems quite alien to the nature and

performance of the material which is supposed to compose them. The forms which he employs express a romantic feeling about the materials, rather than a technical understanding of them, just as the over-all shape of the building is intended to express something about the process conducted within, but seems not to be governed by any interest in the space or flow requirements of that process. This idea, of shapes being able to express certain emotions or attitudes, is the great legacy of nineteenth-century academic thought to the aesthetics of expressionism, and this academic affiliation is unexpectedly confirmed by the symmetrical Beaux-Arts plans which are appended to some of these projects. In this, however, Mendelsohn is no more than the child of his time, as one may see by comparing these projects with the immediately pre-war work of Gropius. When designing a building to house a real industrial process—the Fagus Factory—Gropius and Mayer make no pretensions to over-all symmetry of plan, but when he was called upon to design a building to express a state of mind about machinery—the so-called factory at the *Werkbund* exhibition at Cologne—Gropius not only relapses into the Great-West-Road pretentiousness of hiding his machine hall behind an arty office block, but makes that office block symmetrical and aligns his machine hall on the axis of it. And one does not have to look very hard at the *Werkbund* complex to see that it contains more than one anticipation of Mendelsohn's

expressionism 1914 22

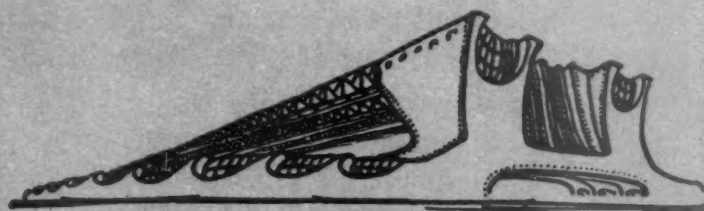


1



2

The early sketches, most famous of all Mendelsohn's large output, show traces of late Art Nouveau, 1, and pre-1914 Expressionism, 2, but these tendencies are telescoped and combined with a Futurist inspiration in the factory projects of 1917, with their dramatic elevations, 3, and tidy metal plans, 4.



3



4

work of the twenties.

But, as far as the war years are concerned, the development of his style followed the lines laid down in the first series of factory projects—the shapes become more bulgy and pressurized, but the basic principles of conception and composition remain the same, and the fruition and termination of this development was the Einstein Tower. Contrary to commonly accepted belief it must be emphasized that the tower closes a chapter in his career, and has no progeny in his own work; it is the end of Mendelsohn the Expressionist.

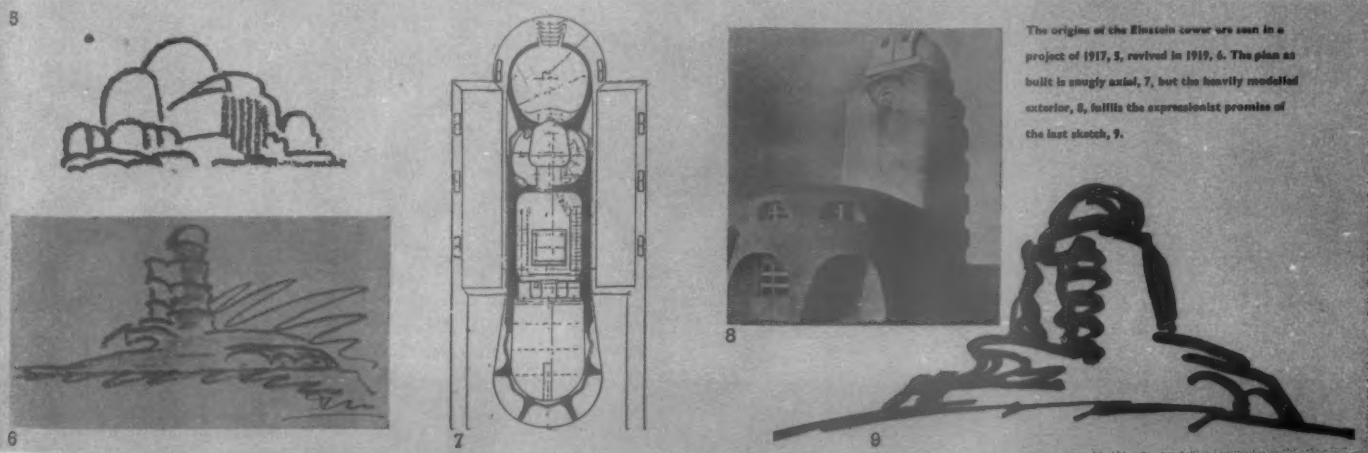
The commission came to him as a result of some observatory projects of 1917 which he had showed to Professor Findlay-Freundlich, one of Einstein's collaborators, and made him a natural choice when the German Government decided to show its change of heart towards the deviser of the Special and General Theories of Relativity by building him an observatory for the spectrographic study of galactic recession. The subject matter was a perfect one for a crypto-Futurist to build expressively, and its realization gave tangible form to all the tendencies latent in the wartime sketches. Its plan is as snugly axial as that of a beetle, its outward forms have an almost manually-moulded appearance, as if the 'eyebrows' over the windows had been pushed up by a giant thumb, and these shapes are quite arbitrarily false to the material of which they are composed; for, under the rendering, the building is almost entirely of brick. Nevertheless, these moulded shapes have a certain sculptural sense about them, and are consistent within their own disciplines, and the plan is perfectly adequate to the fairly simple functional programme. On the other hand the manifest dynamism, the aggressive directional tendency, of the exterior treatment is curiously inapt to a structure whose purpose is to stand still and look upwards and all round—and Mendelsohn, regarding the rising structure in the light of his experiences in 1919 and 1920, seems to have had his own doubts about the value of dynamism of this sort.

The experiences which may have produced such doubts were themselves precipitated by the Tower itself—for the sketches and plans for it were shown in an exhibition of his drawings at Paul Cassirer's gallery in Berlin—under a title, *Architecture in Steel*

and *Concrete*, which seems to be the basis for the legend that the tower is a reinforced concrete structure. His *outré* designs clearly hit an appropriate note in Dadaist Berlin, and the exhibition was well received and widely noticed. Among those who noticed it was H. T. Wijdeveld, who invited Mendelsohn to supply material for a special issue of the magazine *Wendingen* which he edited from Amsterdam, but before this issue appeared in print (October, 1920) the architect himself was in Holland to lecture to the *Wendingen* group, and study contemporary Dutch architecture at first hand.

Those who knew him at the time confirm that he was very impressed by his Dutch experiences, and the evidence of his writing and designs makes it clear how profound the consequences were. *Wendingen* was the mouthpiece of that group of second-generation Dutch modernists who married Art-Nouveau and Arts and Crafts ideas in the style now usually called Amsterdam Eclectic; a group which included the feverishly inventive talents of de Klerk, and the hardly less brilliant designers Kramer, Kropholler and the Eibink-Snellebrand partnership. No group then practising in Europe could be more likely to appreciate the Expressionist art of Mendelsohn: they knew their Poelzig as well as he did; like him they commonly designed with maquettes of soft plastic materials; the stylistic development of the Eibink and Snellebrand office closely parallels his, and their villa plans are in every way the peers of his for organic qualities and freedom from straight walls; and in de Klerk's post-office of 1917 Mendelsohn could see an architecture which was dynamic in the literal Futurist sense of being elliptical and in parts diagonal.

But if the dynamic members of *Wendingen* stood very close to him in some ways, they were separated from him by their understanding, common among Dutch progressive designers, of Frank Lloyd Wright. The influence of the great Chicagoan on the Dutch Rationalists—Oud, van t'Hoff and others—is in the textbooks, but it was *Wendingen*, not *de Stijl*, which published a special issue on him, and any visitor to the suburbs of Amsterdam can see how much the Eclectics borrowed from him—displayed wooden structure, handicraft surfaces and, most particularly, free picturesque planning whose asymmetry was very different from the prim axiality of Mendelsohn's work.



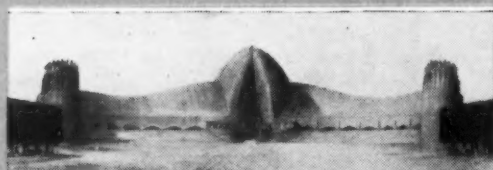
The origins of the Einstein tower are seen in a project of 1917, 5, revised in 1919, 6. The plan as built is snugly axial, 7, but the heavily modelled exterior, 8, fulfils the expressionist promises of the last sketch, 9.

dutch exemplars 1919

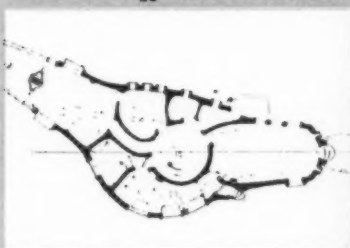


10

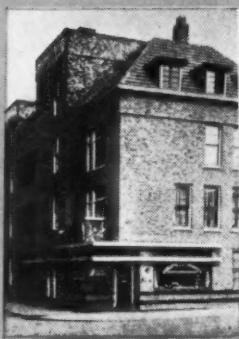
In Amsterdam Mendelsohn saw his Expressionist imagination outside—de Klerk's Post Office, 10, was already up. Wijdeveld had his theatre project, 11, in hand. Elstik and Soutbrand were designing lofts and plastic villas, 12. He turned with new sympathy to the fractionalism of Oud in Rotterdam, 13.



11



12



13

dutch impact 1920/23



14

15



16



17

Sketches reveal the division of mind which Holland produced in him—Imagination run mad in the Expressionist pleasure-pavilions, 14, 15 and 16, of 1920, succeeded at once by a sharp rectangular style, 17, 18.



18

One should remember that *de Stijl's* reaction against *Wendingen* was hardly under way at this juncture, and was barely visible to the eye in built architecture—Oud was still using handicraft surfaces, Rietveld's manifesto-house outside Utrecht was not completed until the time of Mendelsohn's second visit in 1923, and any distinction between the two schools was

¹ This is not to depreciate the importance of *de Stijl* outside Holland. Its influence on the International Style is undeniable, once van Doesburg had exported it from its native country, and once the pure rectangular aesthetic devised by himself and Mondriaan had been cross-fertilized with the impure, but mechanistic, rectangular aesthetics of the Dadaists (Hans Arp, Kurt Schwitters) and of the Russian abstract artists (Malevitch, Gabo). In Germany these three movements produced a sharp and convulsive change in the

about to be smeared over by Dudok and the early work of van Boeken. Any manifestations of *de Stijl* then visible would have appeared to the visitor, as they appear today, no more than an excited rectangular pimple on the face of a consistently developing national style.¹

aesthetics of Modern Architecture, historically symbolized by the entry of Moholy-Nagy (a scholar of all three movements) into the Bauhaus staff. But in Holland there was no convulsive change; *de Stijl* won common acceptance by compromise (de Klerk being dead, and van Doesburg out of the country) with existing styles, as in the case of Dudok's romantic rectangularism. On the stylistic peculiarities of the Dutch architectural scene in the twentieth century, see J. P. Kloos, *The Dutch Melting Pot*, ARCHITECTURAL REVIEW, April, 1948.

dutch influence 1922 24

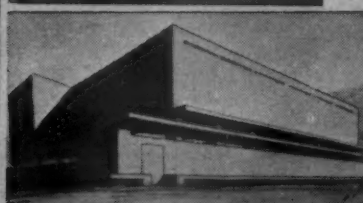


19

In completed buildings, Holland reveals itself as early as 1922, in the double-villa in Charlottenburg, 19, the Sternfeld House, 20, the Meyer-Kauffmann factory, 21 (as in the related Halls project, 22) and the Weichmann silk stores, 23. This photo culminates in the Luckenwold factory, 24, and its powerhouse, 25.



20



22



23

25

Mendelsohn saw, both in Amsterdam and Rotterdam, no more than variants of a common style drawing on Art Nouveau, Wright and handicrafts, practised in a manner which was extravagant in the north, and restrained in the south. The real division of Dutch architecture in 1919 was between *Wendingen's* tendency to put expressive aesthetics first, and the tendency of the Oud-Rotterdam circle to put social and functional considerations first. All this he saw and understood, for he wrote to his wife: 'Oud is functional, corresponding to Gropius, Amsterdam is dynamic. Analytical Rotterdam refuses vision; visionary Amsterdam has no use for cold objectivity. Rotterdam will pursue the narrow path of construction until it dies of cold; Amsterdam will perish by the fire of its dynamism.' This letter is one of the vital documents on Mendelsohn's development, but it has hitherto been subjected to the wrong kind of interpretative treatment.

Energy has been lavished (by Whittick among others) on exegesis of the word *dynamic*—a matter which could have been cleared up by a quotation from the Manifesto of Futurist Architecture, and some illustrations of the work of de Klerk and Kramer—energy which would have been far better expended in relating this document to Mendelsohn's own position in 1919. For the letter continues: 'I stand by my intermediate position . . . dynamism *plus function* is the challenge.' The middle-of-the-road attitude to Dutch architecture which he here proposes clearly implies a qualified acceptance of the *Wendingen* position, and thus, by extension, a qualified acceptance of his own Einstein-Tower frame of mind. But when one examines the sketches and designs of the years following 1919 one sees at once that 'qualified acceptance' is a bleak understatement—the sight of the dynamic fantasies of Amsterdam produced a violent self-examination, a state of mind in which alarm was mingled with 'There, but for the grace of God, go I.'

In the sketches, the stylistic homogeneity which had been evolved by 1917 is split: on the one hand the curvilinear Expressionist manner is screwed up to a pitch of contorted frenzy which utterly outbids his previous conceptions, but had no effect on his built work; on the other hand there appears a new style altogether, chunkily rectangular, asymmetrical, and commonly executed in slashing horizontal shading.

In built work this new manner appears pure, and purely Dutch, in the 'tile-hung' double villa at Charlottenburg, completed in 1922; a building whose sources are unmistakably Rotterdam, but whose rectangularity is clearly not from *de Stijl*, in spite of the fact that he had, by now, made the acquaintance of van Doesburg. Equally Dutch are the Meyer-Kauffmann factory, the Sternefeld house and the Haifa competition projects of 1923—these last being so characteristically Dutch that one sees the justice of von Soergel's attempt to link Wright, Dudok and Mendelsohn in a kind of international remote-control master-pupil relationship. But the accent of the Haifa projects, and of the Weichmann silk stores, is more violent than that of Dudok, or that of Richard Neutra, with whom Mendelsohn was collaborating at the time, but who seems unlikely to have had much influence on the new manner, since the other product of their partnership was the remodelling of the *Tageblatt* corner in Berlin, and that is the one really expressionist work of the early twenties.

But the outstanding work of this stage in his career is undoubtedly the Steinberg-Herrmann factory at Luckenwald, completed in 1923. It is also the most instructive, for now, after nearly ten years of the celebrated factory projects, one can see the architect at grips with an industrial problem in reality. The product, alas, had not the *brío* quality of the Futurist dream—there is nothing very dynamic about a hat, however elliptical its plan-form—and yet the overall layout of the factory does take up the axial symmetry of the pre-1917 sketches. This is all that is taken up, however, and the meaning of the symmetrical plan is severely compromised by the fact that the main runs of the work-halls are at right angles to the axis, and therefore give no dynamic effect. The constructional material is concrete, but, far from being handled in great plastic masses, it is used structurally in precast beams and angular portal-frames, and the surfaces are largely tile-hung in a Dutch and unassuming manner. There are no visible curves externally, and the only unusual treatment of corners is that a few of them are pulled out into little storm-prows which might owe rather more to Wright than they do to *Wendingen*. The powerhouse, at one end of the central axis, is trimly cubic and rationalist, a little like some early work of Arthur Korn, but the dyed and drying loft in the matching position on the

dutch influence 1924 29

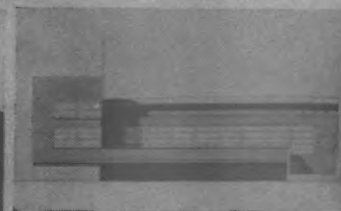
This influence works itself out toward the end of the twenties in brick structures—Bajoch house, 26, Königsburg Jewish Cemetery, 27, and the projected boat-club on the Wannsee, 28. A strain of Amsterdam influence appears in the WOGA flats, 29, in Berlin, projected in 1928.



26



27



28

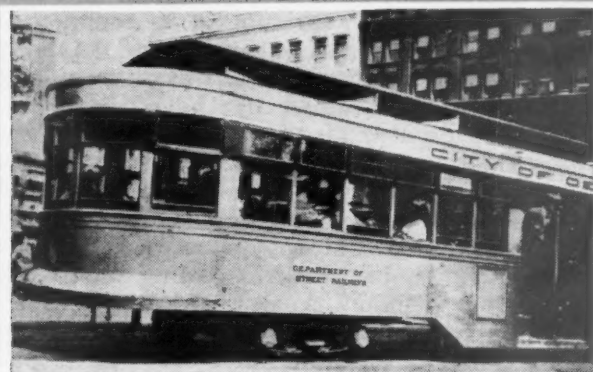


29

usa 1924



30



31

After Holland, the next great formative moment in Mendelsohn's career was his visit to America in 1924, when (possibly under the instruction of the film producer Fritz Lang) he perceived the Futurist poetry of a fully mechanized environment — the chaos of the streets, 30, the confusion of the hind-sides of grain silos, 32, the thrusting prows of street-cars, 31.



32

other side of the factory is very properly admired as one of Mendelsohn's most personal conceptions of the period. Here he was called upon to house a fairly elementary industrial function, not to express a Romantic feeling about it, and the form which the shed eventually took, though perfectly adapted to its function, reminds one so forcibly of the type of wooden cooling-tower which was then common, that any Expressionist illusions he may once have had about forms expressing generalized functions had clearly taken a hard knock. In the last analysis it was air-flow, not hats, which mattered, and therefore the form which had once served the power-station now served the hat-factory, and two years later, in the

Krasnova Snamia scheme (Leningrad) he was to make it serve a textile mill.

Thus one sees that the contact with Holland had been instrumental in producing a fundamental change in his mode of conceiving architecture. He no longer thought in terms of roundly-modelled forms, broad-based like a blanc-mange, but now in terms of structural assemblies of geometrically simple units which presented themselves to the eye as tidily profiled edges, or areas of flat or vertical filling. He still seems to think in terms of perspectives and exteriors, but these seem now to be conceived as sharply angular solutions to corner sites, rather than as buildings in the axially-planned round. Pure plain

the new style 1922 24

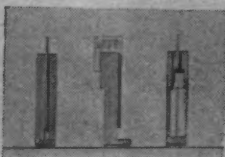
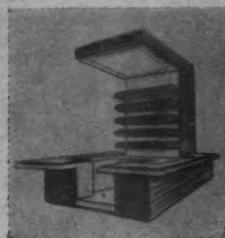


33



34

35



36

After the Taghliet Corner, 33, he began to develop a new style of publicity architecture, first visible in the hard slickness, 34, of the Herpich store of 1924. Later the same year, projects for an exhibition stand, 35, and petrol pumps, 36, 37, took the style further.



37

Dutch influence continues to appear in his works, whether small—like the Bejach house and the Boat-club project—or large—like the very Amsterdam-looking flats on the WOGA-Universum development. But riding through this continuing influence is the development of a new style of publicity-architecture which was to be of critical importance in the shaping of the visual world of Western Man, and made, quantitatively, a greater contribution to product design than the more elevated conceptions of the *Bauhaus* and *l'Esprit Nouveau*.

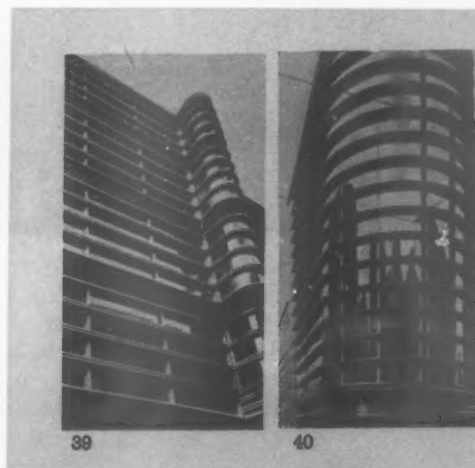
This new style is not so much a continuance of the Einstein manner, as it is often supposed to be, as a crossing back of his Dutch experience on the original Futurist inspiration. Its development is consistently from mechanistic self-assertiveness towards a bland and sweeping precision, and though Borax and Streamstyling are its undoubted progeny, they were incidental to a development whose main trend was in a different direction—a direction which had barely been revealed when the Nazis brought his German career to an end.

The Futurist dream had never been dead, though it had been jolted, and stripped of its vocabulary of form by his Dutch experiences, and it is from Holland, paradoxically, that the best evidence of Futurist continuance has come. It appears in another *Wendingen* publication, the text of his lecture of 1923 *The International Coherence of Modern Architectural Thought*, delivered during his second visit to Holland. The theme was once more the opposition of Dynamics and Function, and in words at least he temporizes between approving and disapproving the machine—passages of almost Futurist rhetoric being counterpoised against cautious passages in which architecture and mechanism are carefully held apart. But the marginal illustrations to the text are even more instructive than the lecture, since they include, among much else, skyscraper projects by Gropius, Mies, and Hans Scharoun, pages from *l'Esprit Nouveau*, buildings by Berlage, Frank Lloyd Wright and Max Berg—an international gallery of advanced architectural thought. But this series of thumbnail illustrations opens with a sequence of images as impeccably Futurist as those in *Vers une Architecture*—lathe, foundry, powerhouse, locomotive, aircraft, cunarder, and then his own *Tageblatt* corner and Tatlin's Constructivist memorial tower.

This places his earliest *Reklame* architecture firmly between mechanism and Constructivism, and this Futurist position was to be powerfully reinforced by his visit to America in 1924. There, it is true, he stayed a few nights with Frank Lloyd Wright, and was lectured on Louis Sullivan by no less a person than Fiske Kimball, but there he also saw for the first time the fully and unrestrainedly mechanized environment of the Futurist dream, the tower-cities for which the infant Moholy-Nagy had wept. His *Architect's Picture Book of America* is a photographic vision of high-speed multi-level circulation at the feet of towering buildings, the window lines soaring up into a sky that is still light while the headlamps of the traffic slash horizontally across the bottom of the photo-image. Man populates that roaring abyss, the street, from which the Futurist's buildings were to rise like gigantic machines. This is his view of America, and, curiously enough, it contains none of the great factories at Detroit, no early work of Albert Kahn—though it does include two Detroit street-cars whose importance will appear later.

Characteristically, it is a view which, when it observes a grain-silo, seems uninterested in the classical regularity of the great simple cylinders, but insists instead on the tangle of pipes, staircases and services on the side about which Le Corbusier was always so careful to remain silent. And it is a view which verbalizes itself in pure Futurist rhetoric in the letters which he wrote during his stay in America: 'Boilers, turbines and conveyors built in sizes which have completely exploded the original scale of the Power station, all subject to the law that the expressive power of any material is limited, and must in time give way to newer and more fully mechanized materials; the fantastic drama of great Piranesian tubes from which are born purely technical achievements that point the way to the future and leave functionalism behind as a merely transitional condition. The Power-energy of the future advances inexorably upon us because it is driven forward by these new emergents.'

If the handicraft excesses of *Wendingen* had driven him out of his old admiration for dynamism, his Futurist response to America and its mechanical enormities had driven him into a new one. It is precisely because this post-American dynamism is new that the *Tageblatt* corner cannot be made to



Often taken for a Mendelssohn cliché, the glazed stair-drum was in fact revived, 38, by Arthur Korn. It appears in Mendelssohn's work in 1925, on the Cohen and Epstein store, 39, as a kind of trial run for the Schocken store in Stuttgart, 40, and the Petersdorf building, 41, in Breslau.



fit with the rest of the *reklame* designs. It belongs to the older concept of dynamism; its great nodding 'tiara' is merely Poelzig vulgarized; it is the last outpost of his Expressionist past. The new accent begins to appear, rather tentatively, in the Herpich store of 1924 with its hard smooth surfaces and radiused bays, but the vital step forward is taken with the projects for the Mosse exhibition stand and the Autophil petrol pumps from later in the same year. Here his Dutch experiences, and some possible contact with Russian Constructivists then in Berlin, were confronted with a theme which, in the petrol pumps, was undeniably Futurist—and he responds with a formal resolution of the problem which anticipates in an astonishing way the pressed-steel Borax which his influence was to father in America some fifteen years later.

In the next year the classic Mendelsohn cliché, the cylindrical glass staircase-drum appeared. But it was not a Mendelsohnian invention, and it was not he that made a cliché of it. It had first appeared in Gropius' *Werkbund* building, and had been revived in a Haifa competition project of Arthur Korn's in 1923—and he and Korn seem to have been in quite close touch in the early 'twenties. What Mendelsohn did was to give this architectural device a formal certainty which it had lacked in the Gropius version by building out its rotundity with projecting horizontal fins, and tying it back to the rest of the building by running these fins as cornices across the flat of the façade. He first used the device on the Krasnoya Snamia engine house, and then on the Cohen and Epstein store of 1925, where it is in effect a scale model for the Schocken store at Stuttgart, whose design must have been put in hand early in 1926. Here a full-sized department store staircase rises in a projecting glazed drum at one end of the main front of the building. The wrap-round cornices are used to tie it back to the side façade, and the main street front has a contrasting system of fenestration with

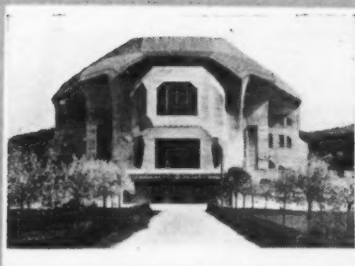
only one cornice per floor, suggests rather forcefully the part which the streetcars of Detroit might have played in the development of this shiny and mechanistic style—one might be looking at the prow of a multi-decker tram.

And these three shops are his total employment of a device which is normally regarded as a cliché in his work. Already in the Mosse Pavilion for the Cologne exhibition, with its very wide-swept run of fenestration round the end, and even in the stupefying juke-box façade of the Wertheim project (also 1929) there are signs that he was about to go off on another tack, signs which are justified by the WOGA-Universum development, the Schocken store in Chemnitz, and Columbus Haus in Berlin. In these there emerges a new way of managing large urban sites, with broad bland façades sweeping round to follow the run of an existing street or shape the traffic-flow in a new one. This last German manner of his, with its horizontally banded frontages free from either horizontal or vertical projections, smooth, professional and urbane, looks as if it may have been the road to a rapprochement with the International style; the *Galerie Lafayette* project had already shown a large pure prism, trimly rectangular in form, and topped with publicity and lettering in a manner which suggests more than a smattered acquaintance with Constructivist thought. But whether this rapprochement was to take place is now but an historical speculation; the coming of the Nazi's cut short a development which might have brought commerce and the International style together in a manner which might have eliminated the excessive caution of the former, and the distrust of the latter—how much Peter Jones's in Sloane Square owes to this last German phase of Mendelsohn!

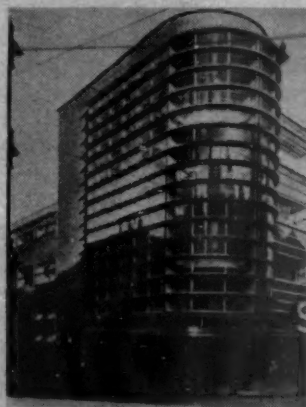
* * *

Looking back then over the period between Dr. Caligari and Dr. Mabuse we see Erich Mendelsohn

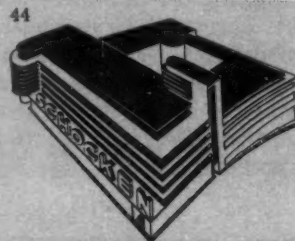
1925 '28 continued



42

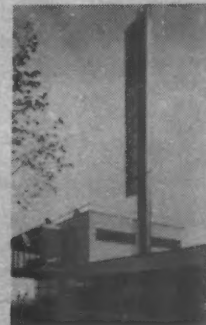


43



The Goshanman, 43, orthodox Expressionism of 1922, shows how far he had strayed from an expressionist manner in his exactly contemporary Schocken store, in Stuttgart, asymmetrical in layout, 44, edgy and unpolished in detailing, 43, by comparison with Steiner's design.

1928 '33



45

long brick panels separating horizontal bands of glazing. A similar use of horizontal bands of windows, with more than an air of homage to Louis Sullivan in their framing, appears in the Petersdorf building in Breslau, and there a vertical drum is used to sweep off the end of the façade in a manner which, having

practising three different styles subsequent to Expressionism, with which he had completely finished by 1922—the Dutch manner from 1922 to 1929, and the first *reklame* style in parallel with it, followed by the second *reklame* style from 1929 until he left the country. There is nothing here so consistently Express-

sionist as to justify the Mendelsohnian Myth, as it seems to be understood by such writers as M. F. Roggero whose recent book on Mendelsohn virtually ignores the successive impacts of his Dutch and American visits, or Bruno Zevi, whose History of Modern Architecture contains what is probably the most compact recension of the Myth. This admits that the Stuttgart store is different from the Einstein Tower (and discusses none of his other buildings) but insists on the continuance of an Expressionist aesthetic²—a position which is quite untenable if one compares the Stuttgart store with the orthodox Expressionist detailing and massing of Rudolf Steiner's exactly contemporary *Goethaneum*.

But the reason for Zevi's position is easy to see. For him any stick will do to beat the dog of Rationalism, and to him, as to the Rationalists themselves, it is Mendelsohn's departures from the International style which are conspicuous, not his approximations to it. The conventional myth of Mendelsohn is much more use as a polemical weapon than is the true image of an original and changeable designer, so Zevi has a vested interest in its continuance. And since the historical victory has gone to the International Style, rather than one of the variant possibilities of the twenties, we are all now the children of Rationalism, and, noticing Mendelsohn's aberrations from our canon of form rather than his conformities to it, we tend to accept the Zevian estimate of him.

But there is another and more specific incentive to concentrate our view of Mendelsohn into a single

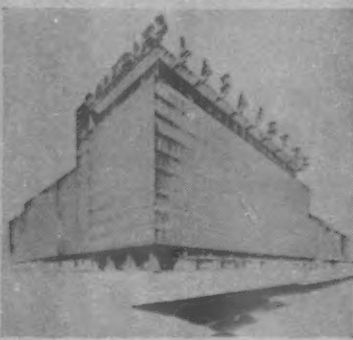
image of Expressionist disorder, and that is Borax.³ His ultimate responsibility for the formal language of American product-design cannot be denied, but to hold him responsible for the enormities of its misuse is as stupid as it would be to blame Voysey for the swarming horrors which are the undoubted offspring of The Orchard, Chorley Wood. Borax has its triumphs, as well as its disasters, but our attitude towards it tends to be comparable to that of our forbears toward the Baroque. The empurpled rage of the Burlingtonians before the work of Borromini is chicken-feed to the almost pathological fury of Max Bill confronted with the products of General Motors: 'Thanks to the speed with which efficient salesmanship is spreading this catchpenny trash all over the world, it looks as if the ultimate collapse of our civilization could not be averted much longer.' This is an extreme case, no doubt, but a similar seizure of the critical faculties seems to affect most of our pundits when faced with the confident convexities of a Buick, and in such a state of seizure they see, through Borax-coloured spectacles, the Einstein Tower and the Stuttgart staircase as Mendelsohn's characteristic works. This composite image of the two towers always proves to be the substance of the Expressionist Myth, and will presumably remain so until some doctorate-seeking drudge raises Borax to the status of a major style, and subjects it to the familiar disinfecting routines of art-history. Or until we drown our ignorance of his work in a flood of knowledge of what his achievement really amounted to, and recognize that he was less a vulgarian than an original and a non-conformist.

² These strictures were written without immediate access to a copy of Zevi's *Storia*, and are inaccurate in detail, but their general validity remains, and is, indeed, reinforced by an article which Zevi has subsequently written in *Metron* 49-50. This is the first extended memorial notice of Mendelsohn's work to appear in any language, and in it he now concedes some development away from Expressionism. But this is dated from 1924, and the Expressionist canon has therefore to include the Charlottenburg villa, the Sternefeld House, and the Hat Factory at Luckenwald. This seems to imply the use of the word Expressionism as a term describing the architect's supposed state of mind, rather than the manifest nature of his constructed buildings. The art-historical value of this usage is rendered very suspect by the fact that Zevi does not discuss the impact of the Dutch and American visits—or even mention them!

³ Although there is a difference between the exact acceptance of the word *Borax* in English and American Usage it means, in general, a bulbous pressed steel and/or moulded plastic manner, somewhat related to purely functional streamlining and normally enlivened by close-spaced horizontal or vertical striping, usually of chromium plate. The term is used in the English sense in this article (not in the narrower American sense) first introduced in an article in THE ARCHITECTURAL REVIEW for August, 1948, where the reader will find illustrations which make the Mendelsohnian affiliations very clear. For the views of Max Bill see his book *Form*, published by Karl Werner, Basel.



46



47

48



The last phase of Mendelsohn in Germany is broader and simpler, beginning in 1928 with the Cologne exhibition pavilion, 45, and the WOGA development, 46, close to the International Style for Gabriel Laffayette, 47, broad and masterly in the Schocken store at Chemnitz, 48, and Columbusplatz, Berlin, 49.

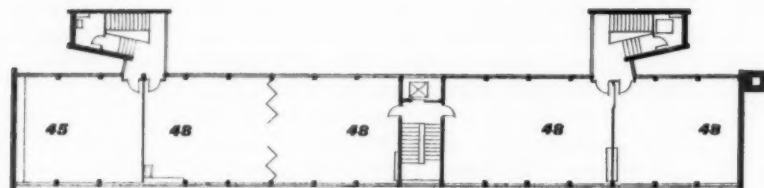


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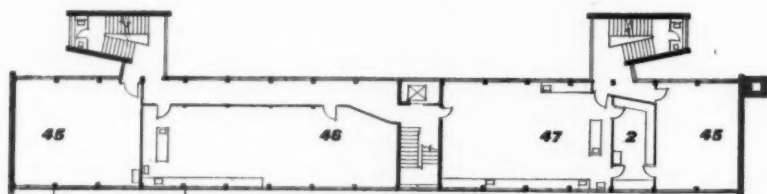
TECHNICAL COLLEGE AT COLCHESTER



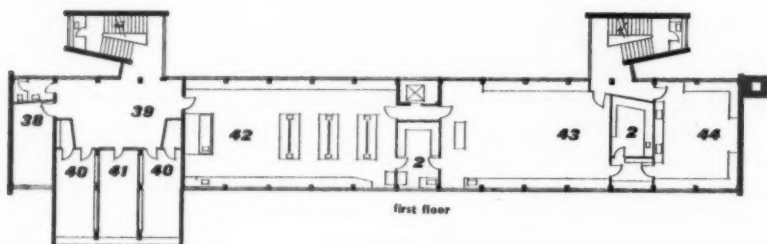
View from the north-west of the college as it will look when completed.



third floor



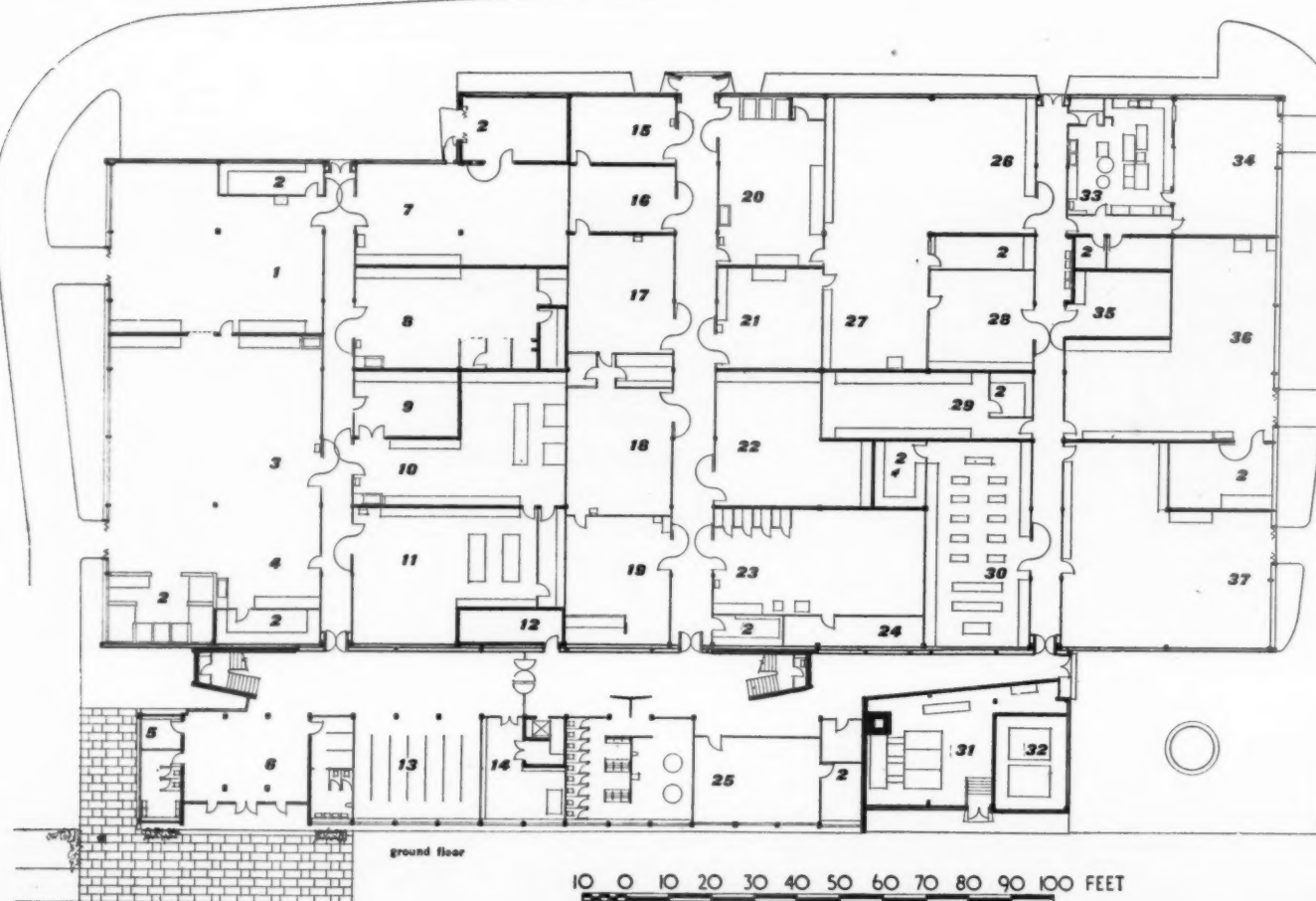
second floor



first floor

key

1. carpentry and joinery machine shop.
2. store.
3. erection shop.
4. brickwork shop.
5. caretaker and bookstall.
6. entrance hall.
7. carpentry and joinery hand shop.
8. painting shop.
9. electrical installation.
10. hard plumbing shop.
11. soft plumbing shop.
12. electrical intake room.
13. students' cloaks.
14. caretakers.
15. canteen room.
16. keyboard room.
17. composing room.
18. machine room.
19. bookbinding room.
20. foundry.
21. heat treatment.
22. strength of materials.
23. welding shop.
24. cylinder room.
25. radio servicing.
26. machine shop.
27. fitting shop.
28. machine tools.
29. metrology.
30. advanced electrical engineering laboratory.
31. heating chamber.
32. tank chamber.
33. kitchen.
34. dining room.
35. steel store.
36. automobile engineering shop.
37. heat engines laboratory.
38. staff room.
39. waiting space.
40. head of department.
41. secretary.
42. elementary science laboratory.
43. electricity laboratory.
44. metallurgy laboratory.
45. building drawing offices.
46. mechanics laboratory.
47. building science laboratory.
48. engineering drawing offices.



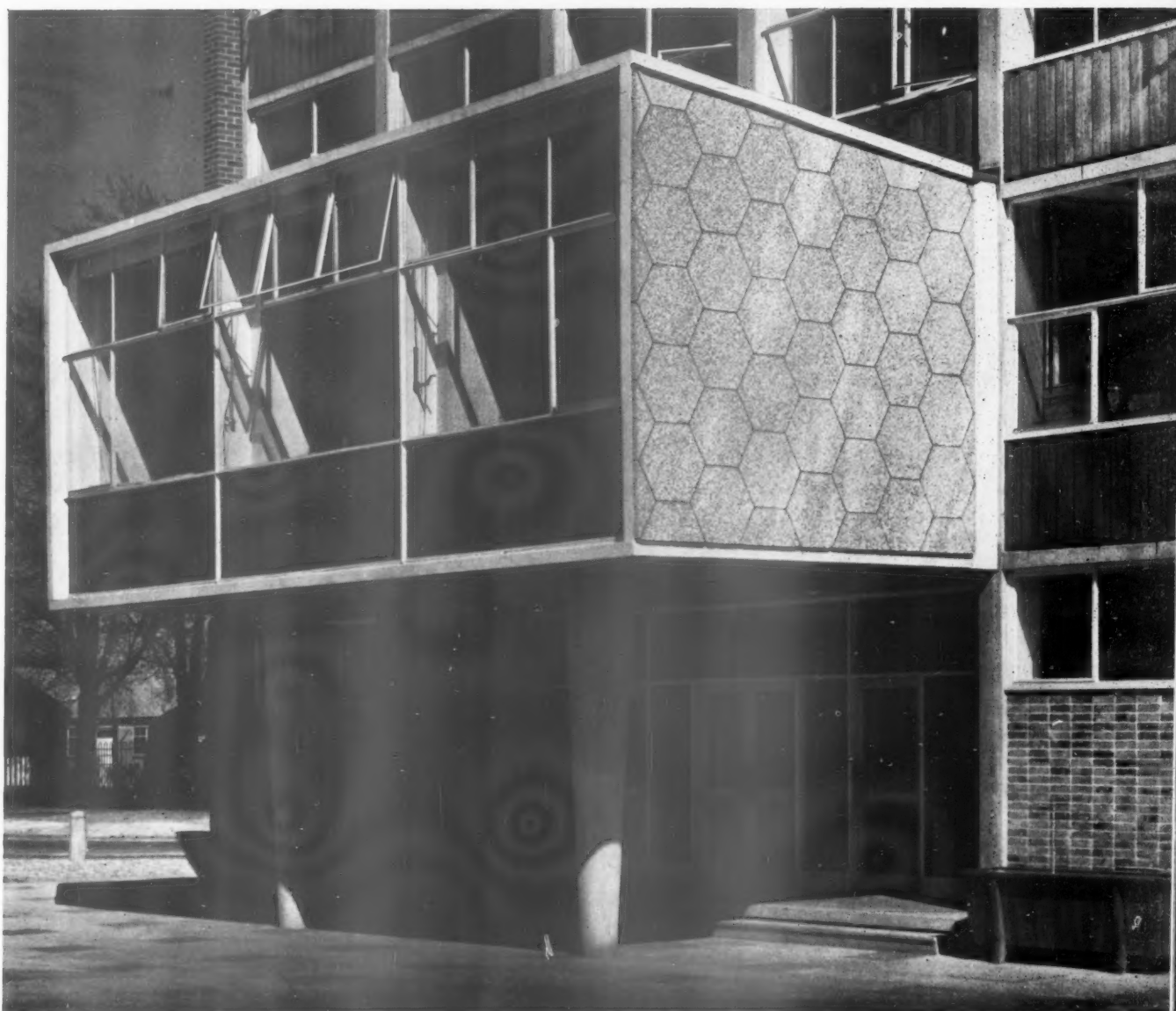
ground floor

10 0 10 20 30 40 50 60 70 80 90 100 FEET

TECHNICAL COLLEGE AT COLCHESTER

H. CONOLLY: *Essex County Architect*

N. P. ASTINS: *Section Assistant Architect responsible*



1, the main entrance with offices above. A sculpture by F. Belsky is to be placed on a brick plinth in front.

The site lies north of the town near the railway station and by-pass. The building illustrated here forms the first stage of a regional technical college and school of art: it comprises workshops, laboratories and drawing offices for the engineering and building departments and the printing section of the school of art. Further stages

will include departments of science, commerce and women's subjects, and the school of art, with lecture rooms, gymnasium, swimming bath, assembly hall, dining facilities and administration wing.

This first stage is planned as a self-contained unit and consists of 32,000 sq. ft. of single-storey workshops and



2

2, the 4-storey block and workshops from the south-west, and, 3, a close up of the cladding of the block, showing the varnished hardwood boarding below the windows.

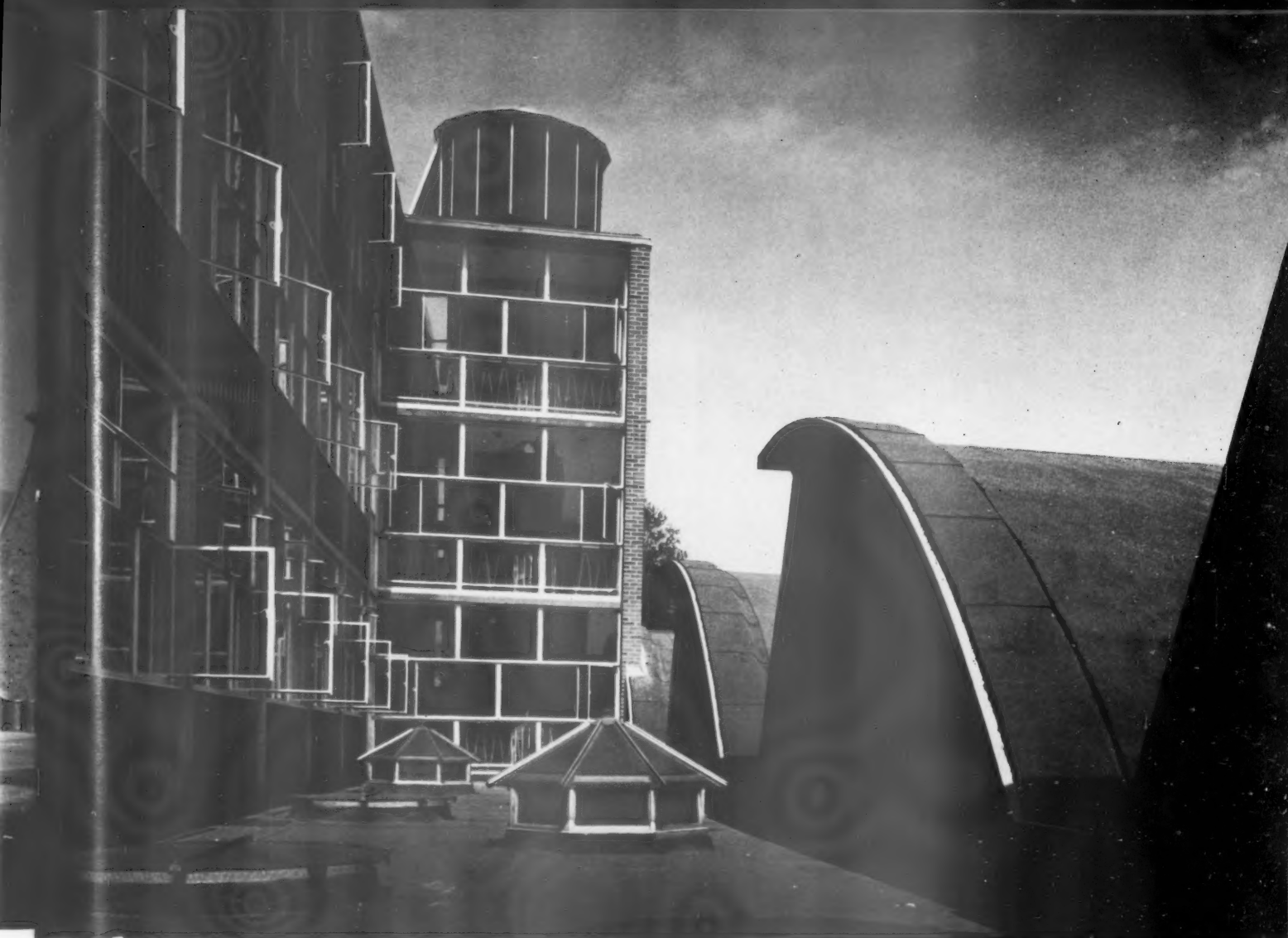


3

20,000 sq. ft. of laboratories and drawing offices. These are contained in a four-storey block with vertical access minimising circulation area and allowing windows on both sides of rooms. The first floor administration area has been pushed forward from the west elevation to form an entrance canopy and give an internal waiting space.

The precast structural frame to the workshops and roof units were cast on and hoisted into position by crane from a 2-in. blinding slab of concrete. The four-storey block has an *in situ* r.c. frame with 5-in. thick solid floors.

In the workshops the external walls are of cavity brickwork, the internal face and partitions being in white sand lime bricks with a flush joint. The r.c. frame is left exposed and roof units which have 2-in. wood-wool slabs cast-in and exposed on the underside are sprayed white and finished externally with 3-layer roofing felt mineral finished. Floors have either granolithic paving or hardwood blocks. Corridor walls are finished with cement glaze on cement render. The doors to each shop are designed in two leaves, one an inward opening 3-ft. wide flush door for normal access and the



TECHNICAL COLLEGE AT COLCHESTER

other a 4-ft. door opening outwards through 180° to give a combined opening 7 ft. wide for the movement of equipment. Bright colours are used only on the doors and service pipes which are left exposed, all other surfaces being left with a fair face natural finish.

In the four-storey block the gable walls and walls to the staircases (which are load bearing and have exposed facings on both sides) are of 14½-in. brickwork, the two principal elevations consisting of windows with panel filling under. These panels consist externally of varnished hardwood vertical boarding secured through felt to a pressure-creosoted softwood frame and internally plastered 2-in. wood-wool slabs secured through spacing pieces and aluminium foil to the frame. The roof is finished with 3-layer mineral finished felt on 1-in. vermiculite screed. Ceilings are sprayed with ½-in. asbestos spray left natural finish. Floors to laboratories are of hardwood blocks on 1-in. minimum vermiculite screed and to drawing offices, thermoplastic tiles on a floating floor of 2-in. reinforced screed on fibreglass blanket. Partitions are of plastered brickwork. The side walls in the entrance hall are of exposed facing brick; the columns, bookstall and door frames are of polished hard-

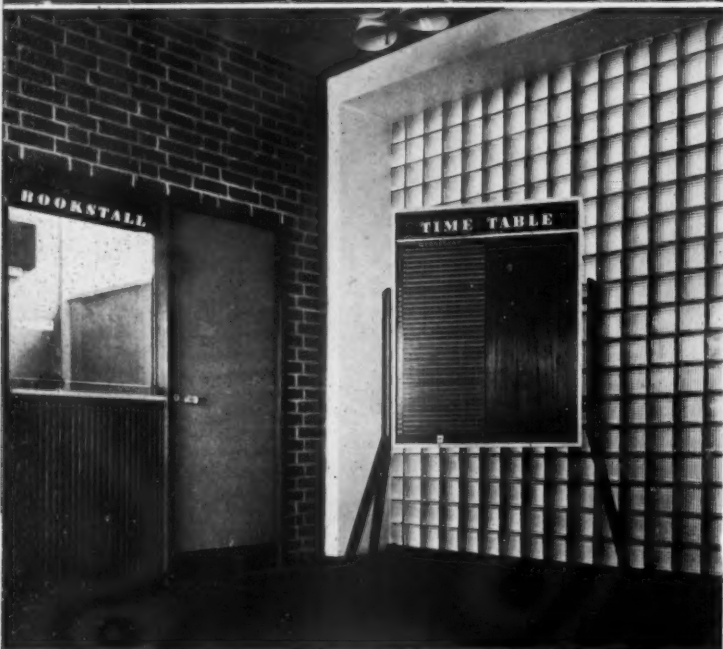


4, view on the roof of the crush corridor between the block and workshops, looking to the stairwell and roof tank, and, 5, the reverse view, from stairwell to roof: staircase soffits are painted white.

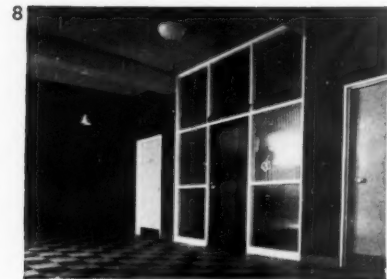
TECHNICAL COLLEGE AT COLCHESTER



6

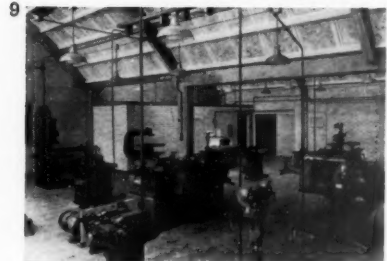


7



8

6, the entrance hall, with a mural painted by J. T. O'Connor and H. Cronin of the Art School, based on forms from the natural sciences, in the same colour scheme as is used in the



9

building itself. 7 and 8, two further views of the entrance hall. 9, part of the carpentry machine shop, and 10, one of the laboratories. 11, the south elevation showing the length of the workshops.



10

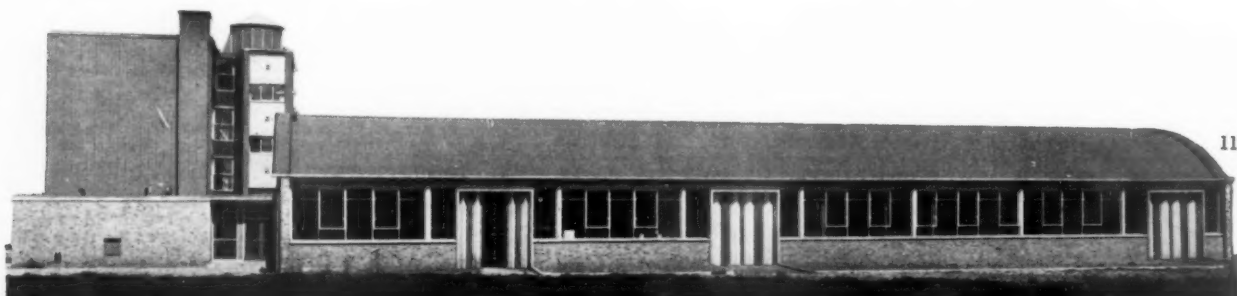
wood and the flooring of heather-brown quarry tiles. Teaching rooms are painted in two tones of grey and white with relieving panels of subdued colours, the circulation areas having small panels of bright gloss colour which contrast with the larger area of natural finishes.

The heating system is by low-pressure hot water with three oil-fired sectional boilers. There are radiators in

the teaching rooms and unit heaters in the shops.

The domestic hot water supply is decentralised and is from two small gas boilers with storage heater serving the main supply needs and with small gas and electric unit heaters elsewhere. This was to save the great cost of piping the system around the area of the workshops.

Assistant architects were Mrs. D. M. Nicholls and P. R. Cansdale.



11

HEALTH CENTRE AT CORBY

R. LLEWELYN DAVIES: ARCHITECT



1, view from the main gate, looking to the consulting and X-ray departments, housed in the projecting wings. 2, the entrance to the central hall. The door and window surrounds are white, the facing bricks are light buff rustics.



plan

- key
- 1, dark room.
 - 2, viewing.
 - 3, x-ray room.
 - 4, consulting room.
 - 5, office.
 - 6, waiting.
 - 7, gymnasium.
 - 8, changing room.
 - 9, treatment room.
 - 10, sluice.
 - 11, hall.
 - 12, enquires.
 - 13, almoner or sister.
 - 14, staff room.
 - 15, consulting suites.
 - 16, pathology.
 - 17, dispensary.
 - 18, sterilising room.
 - 19, anaesthetic room.
 - 20, boiler house.
 - 21, fuel.



3, a room in the physiotherapy department.
4, looking towards the X-ray department.
On the right the waiting room; at the junction of the blocks the entrance photographed in 2. 5, inside the central hall. The floor is black and white 18 in. by 18 in. chequered tiles. 6, view from the central hall looking to the physiotherapy department.



HEALTH CENTRE AT CORBY

The National Health Service planned three main kinds of medical care, run by three different authorities: hospitals and specialists, provided by regional hospital boards; family doctoring, by general practitioners contracting with local executive councils; and preventive and after-care services, by local health authorities. But it was originally hoped, and provided for in the Act, that 'health centres' would be built throughout the country so that all the skills and services which patients need, outside of hospitals, could be brought under one roof. In three places experimental variations on the basic ideas behind the 'health centre' proposal are being made, with the help of funds from the Nuffield Provincial Hospitals Trust; in Manchester, in the new town of Harlow, and at Corby.

The Nuffield Diagnostic Centre at Corby is not a 'health centre' in the accepted sense, as it is not provided by a local health authority; it does not include all the facilities laid down by Section 21 of the National Health Service Act, 1946, and the general practitioners concerned will not work as a group in the Centre.

The family doctors of Corby will retain their existing surgeries, but patients needing more complete examination or investigation will be given appointments at the Diagnostic Centre, where the general practitioners will rent some of the consulting rooms. Here the doctors will be able to examine their patients, away from the rush of the surgery, and can consult any of their colleagues or arrange consultations with the visiting specialists.

The Oxford Regional Hospital Board is providing and



staffing the chest clinic and X-ray and physiotherapy departments; and its consultants and specialists will use some of the consulting rooms, for which use the Board will pay.

The three blocks of the Centre—the consulting and treatment wing, the physiotherapy department, and the combined chest clinic and X-ray department—are grouped round a central entrance hall. Each department and each consulting suite has its own small local waiting space for patients.

One of the objects of the experiment was to demonstrate that the essential requirements for a diagnostic centre could be provided at a reasonable cost. Economy was therefore important, both in the design and in the choice of materials and finishes.

Each wing is planned as compactly as possible. In the X-ray and physiotherapy departments top lighting is

employed to facilitate concentration in planning. The construction of the building is extremely simple; the walls are of 11in. cavity brickwork and support a timber roof. The facing bricks are light buff rustics and in the waiting spaces and corridors the internal walls are of fair-face brickwork, painted. The floor finish is thermoplastic tiles except in the treatment wing where the floors are terrazzo and the gymnasium where they are wood block.

Each block of rooms has been given a different colour contrasting with the white ceiling and black-and-white chequered floor used throughout the Centre. The walls of the consulting, examination and treatment rooms, and of other rooms within the block, are painted a very light grey with a darker grey on door frames and skirtings. The curtains in these rooms are in varying colours of the same patterned fabric. Terrazzo floors are white.

7. the waiting room. 8. general view from the south, with the physiotherapy department in the centre and the boiler-house on the right.





The first phase of Gothic Revival in Canada was little more than a modification of the existing practices of Carpenter-Georgian, but by 1840 it had developed fully into an elegant Carpenter-Gothic, prettily exemplified in The Church of St. George, Lunenburg, Nova Scotia.

CANADIAN GOTHIC

R. H. Hubbard



In Canada, Gothic Revival was the architecture of growing nationhood, both in spirit, and in physical reality, for the elaborately Ruskinian Parliament Buildings in Ottawa, above, the work of Thomas Fuller but destroyed by fire in 1916, were completed in time to house the first Parliament after Confederation, in 1867. The transplantation of this traditionalist style to a land barely old enough to possess traditions of its own, is described in the article which appears below.



N CANADA, the Gothic Revival occupies a position of historical importance comparable to that enjoyed by the Classic Revival in the United States. Although both styles were of European origin, each became so closely bound up with a critical period in the formation of its respective nation that it may be regarded as that country's first national expression in architecture. In the United States, the Classic Revival which coincided in point of time with the first wave of official building reflected the ideal republicanism of 1800. In Canada the Gothic Revival stamped our first large buildings with the romantic traditionalism of 1850, at a period when the Dominion was in the process of formation.

The first Gothic designs, however, appeared considerably before the middle of the nineteenth century. In 1811, Sir James Craig, the Governor, appointed a commission to secure plans for a new legislative building at Quebec. Several designs were submitted by Canadians, including François Baillairgé, the chief exponent of the Baroque tradition in the French colony. Of the two sets which arrived from London, one was signed by Jeffry Wyatt,¹ the nephew and pupil of the creator of Fonthill Abbey, and later the restorer of Windsor Castle. Wyatt's designs for a 'Government House at Quebec' were exhibited at the Royal Academy in 1818;² they are now in the Public Archives,

¹ Afterwards Sir Jeffry Wyattville. He also worked for General Murray, a former Governor of Canada.

² A. Graves, *The Royal Academy of Arts*, VIII (London, 1906), 378.

Ottawa. The ground plan served for two alternative elevations, the one with an Ionic order, the other with Perpendicular Gothic motifs. But the two elevations have more in common than their plan: they share the same general proportions and the same planar simplicity of design, and even the same string course which is continued across the windows by transoms. Unfortunately neither this nor any of the other designs was carried out.³

In the period between the War of 1812 and the union of Upper and Lower Canada in 1840, Gothic features gradually found their way into the wooden Georgian and Classic Revival architecture of the Maritime provinces.⁴ French Canada at this time was too preoccupied with the development of its own style compounded of Baroque and Classic elements to pay much attention to the Gothic. The church at Belfast (ca. 1820) with its pointed windows and parapet at the top of its pagoda-like tower is an example of the period in Prince Edward Island. An elaborate carpenters' Gothic developed from this point of departure to the degree indicated by St. John's Church at Lunenburg, Nova Scotia (1840).

³ See J. F. C. Smith, 'Drawings from the Archives, Ottawa,' in *Journal of the Royal Architectural Institute of Canada*, XV (1938), 132-3. Joseph Gandy (1771-1848) was the other English architect who sent plans for the Quebec building; these were exhibited at the Royal Academy in 1812 (Graves, *op. cit.*, III, 199).

⁴ Ithiel Town, the pioneer of the Gothic Revival in the United States, visited Nova Scotia in 1828 or 1829, but no architectural work is recorded; his visit was presumably for the purpose of bridge building. R. H. Newton, *Town & Davis* (New York, 1942), 80, 95.

The single exception in the province of Quebec at this early stage was the church of Notre-Dame in Montreal, the first large Gothic structure in the whole country. Built between 1824 and 1829, its architect was James O'Donnell,⁵ an Irishman who had come to New York around 1812 and there in 1818 had made a set of plans for additions to Columbia College.⁶ The choice of this 'foreign' architect was made by a Montreal trader on a journey to New York; it was prompted, at least in part, by the unusually large size of the church and the problems which it posed for local builders accustomed to working on a smaller scale. An outsider in French Canada, O'Donnell had difficulties with his workmen and contractors. But it was the Gothic style which drew the most protests from Canadians who resented this break with tradition. One complaint was heard from Quebec, the seat of the Baillairgé atelier, to the effect that the Gothic was not only an English, but also a Protestant style!⁷ The architect made spirited reply in highly eccentric English,⁸ but in

⁵ O'Donnell was born in County Wexford, Ireland, in 1774 and died in Montreal in 1880.

⁶ These plans, now in the Avery Library, Columbia University, 'show an exquisite and meticulous type of draughtsmanship.' Talbot Hamlin, *Gothic Revival Architecture in America* (New York, 1944), 134.

⁷ Letters by Thomas Baillairgé and the Abbé Jérôme Demers in the Archives of Notre-Dame are quoted by Mgr. Olivier Maurault in *La paroisse* (Montreal, 1928) which also contains an account of the building of the church.

⁸ Several excerpts from O'Donnell's letter of March 16, 1824, written from New York to La Rocque, the agent of the parish, have a quaint interest. (This letter was made available to me through the kindness of M. Germain Nepveu,

the end the Protestant Irishman was converted to Catholicism as he lay dying prematurely in Montreal, and he was buried beneath a French epitaph in the crypt of the church he had built.

The exterior of Notre-Dame shows the meagre proportions and the smooth, flat walls which gave Gothic Revival architecture of this period a flimsy appearance. The detail, too small and fine for the size of the building, gives to it a frail and rather nervous look. The façade with its slim towers (1841 and 1843) is a splayed version of Westminster Abbey, with only a horizontal strip concealing the gable to serve as a reminder of Paris. The portals, so prominent in the Bartlett engraving⁸ of the towerless Notre-Dame, resemble those of Peterborough Cathedral. On the interior, however, O'Donnell made little attempt to follow any medieval example. Bartlett in 1836 saw a spacious hall with double galleries and broad wooden vaults. The ground plan did not call for choir or apse, and the altar rail and reredos stand within the nave on typically eighteenth-century curving plans. The spatial equilibrium resulting from these eighteenth-century proportions increasingly troubled the authorities of Notre-Dame, who felt that they were not Gothic enough,⁹ until in the 1870's they were masked under a profusion of ornament designed under a sad misconception of the polychromed interior of the Sainte Chapelle in Paris.

Meanwhile, in the 1840's, the Gothic had gained in popularity, particularly for churches of the liturgical sects. Among the numerous smaller examples, two stone churches are of interest. In 1846, Henry Bowyer Lane¹⁰ gave his Holy Trinity Church in Toronto gable ends in imitation of Tudor examples, but his emaciated turrets and papery, crenellated walls had more in common with the contemporary American work of Alexander Jackson

[continued on page 107]

continued from page 103]

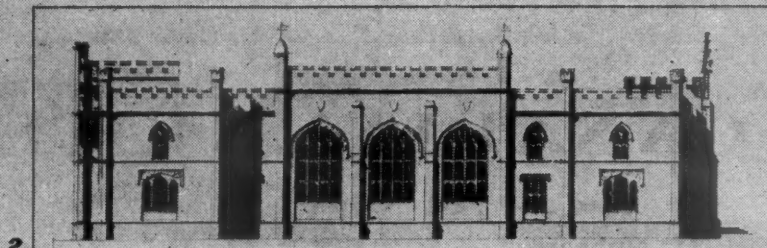
Archivist of Notre-Dame, and Dr. Marius Barbeau of the National Museum.) The architect had chosen the Gothic style 'as I considered it more suitable to your materials, workmen, climate, wants and means.' The remarks of one critic of his choice he rejects as 'foreigner [!] to the subject; they are only applicable to the monuments of Europe, and to Roman architecture, not at all to the pure Gothic style, because he condemns some of the grandest and best features that art ever invented, and science has established, which shines inimitable on earth and so happily to sacred use.'

His reply to attacks on his plain and simple version of the Gothic is one of the most curious passages of this remarkable letter: 'And as to the florid style of Gothic work, it neither suits your materials, workmen, climate, nor even if you had the means, the plain and simple style divested of its ornaments, consorts more with the purpose of your Edifice, which you will perhaps find soon out to be the case. Bold and massive relieve [relievo (?)] with its true features in its just proportion, from a palace to a Cottage, produces the sublime, while those trifling decorated parts never can strike the beholder with grandeur, they are the effects of bad taste which have degenerated from the Classic Style. Classic architecture dispises the busy efforts of the chisel to decorate deformity, only produces a mass of confusion, subject to perish in its infancy by the corrupting hand of time, particularly when exposed to the northern climate.'

⁸ The engravings after W. H. Bartlett by J. Carter were published in *Canadian Scenery* in 1842; Bartlett had travelled in Canada in 1836.

⁹ Maurault, *op. cit.*, 107 ff.

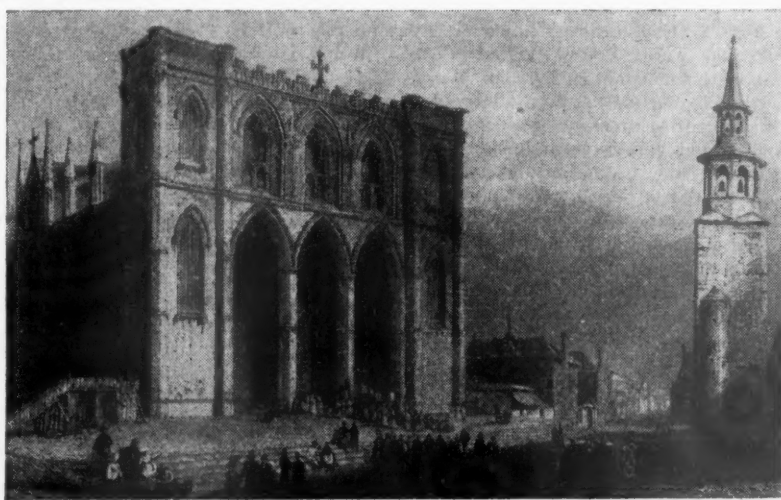
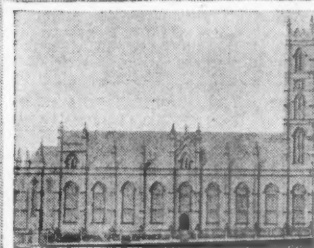
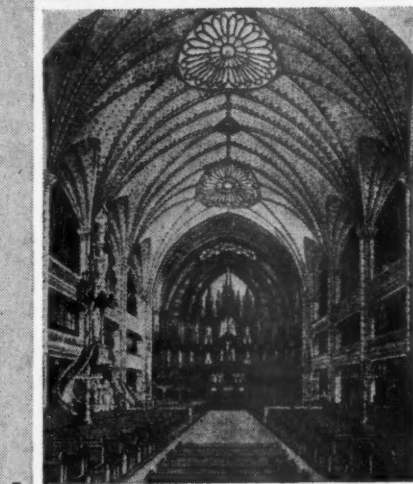
¹⁰ Lane, a Devonshireman, came to Toronto in the early 1840's and returned to England in 1847.

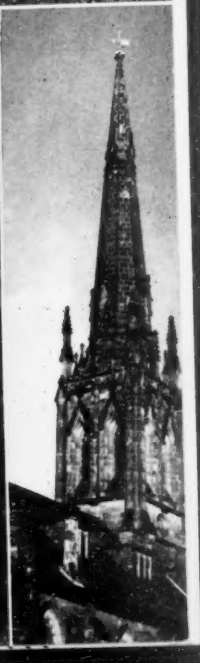
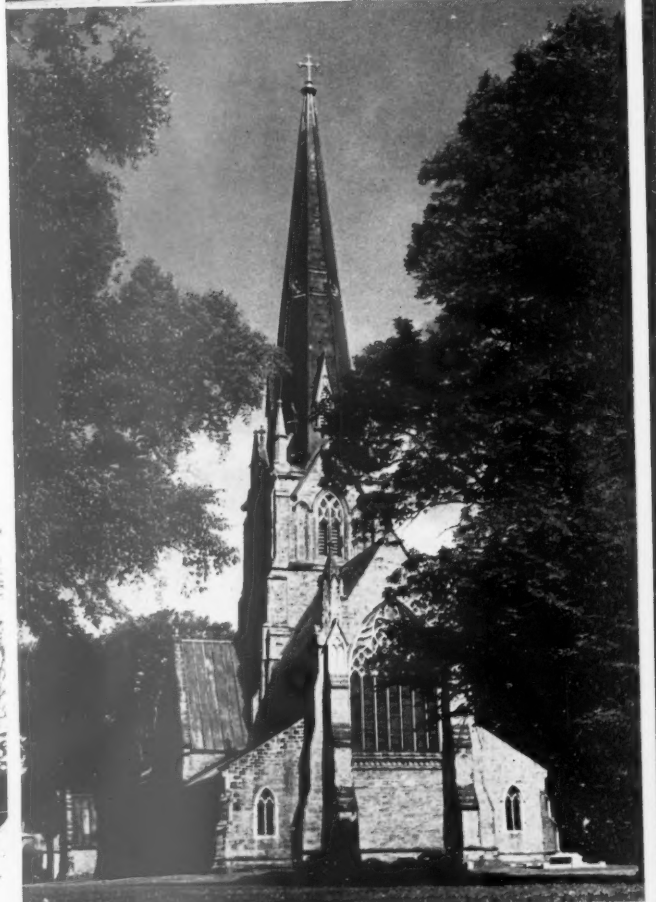
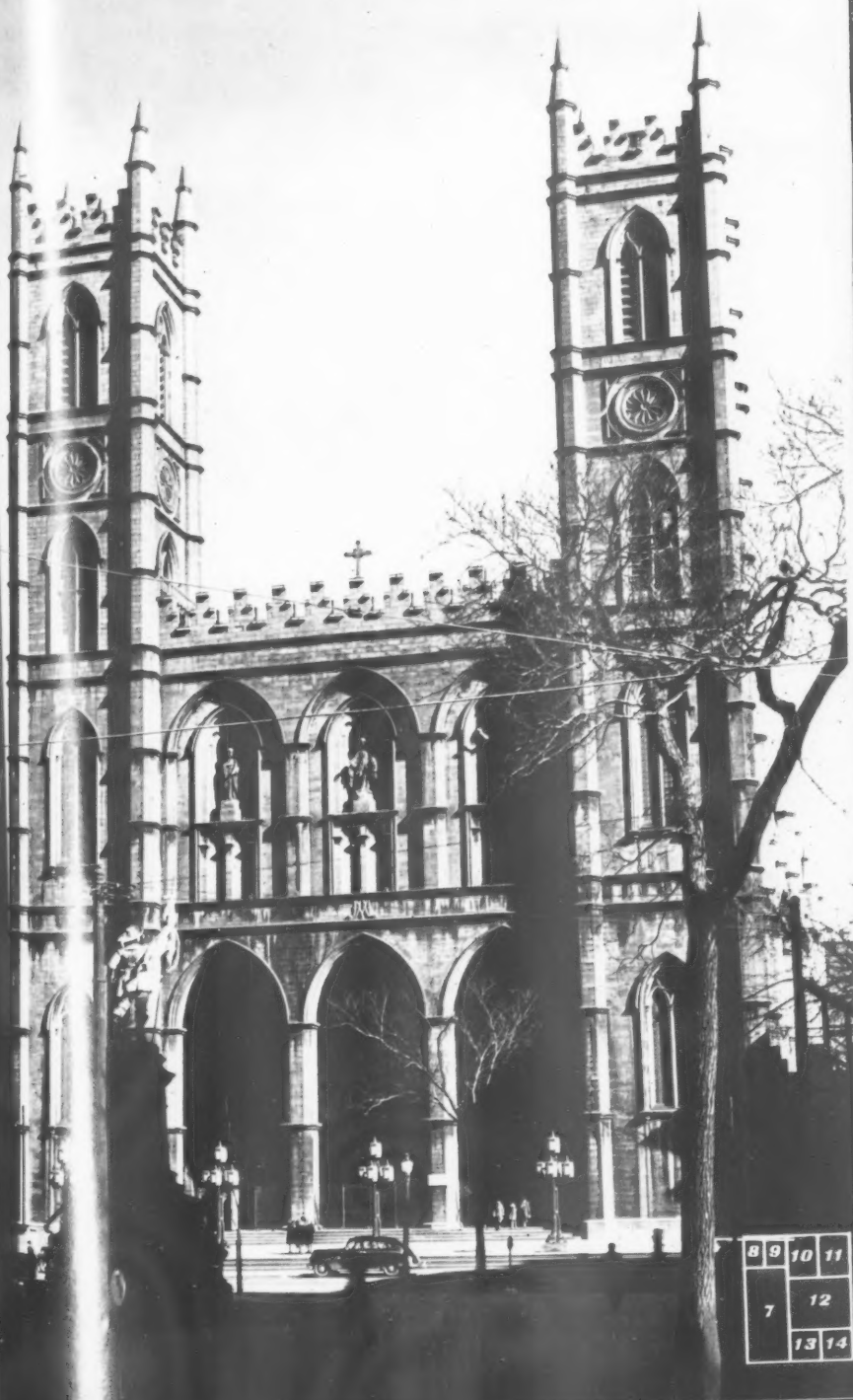
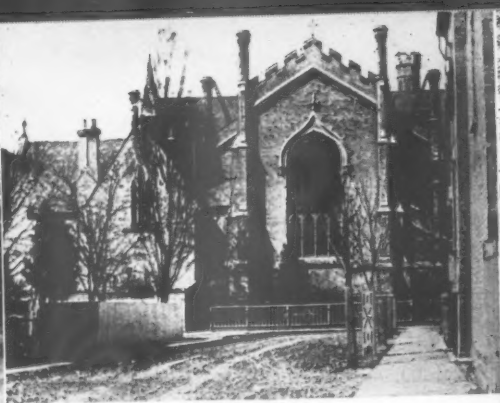
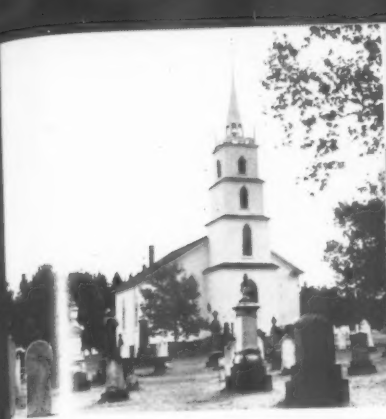


2, Jeffrey Wyall's Gothic alternative to his classical design for a legislative building at Quebec in 1811.

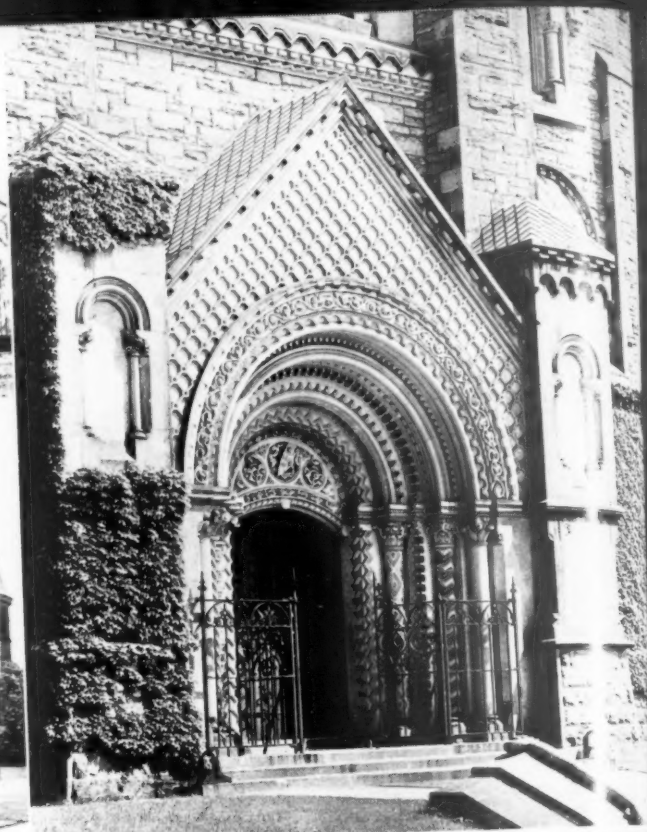
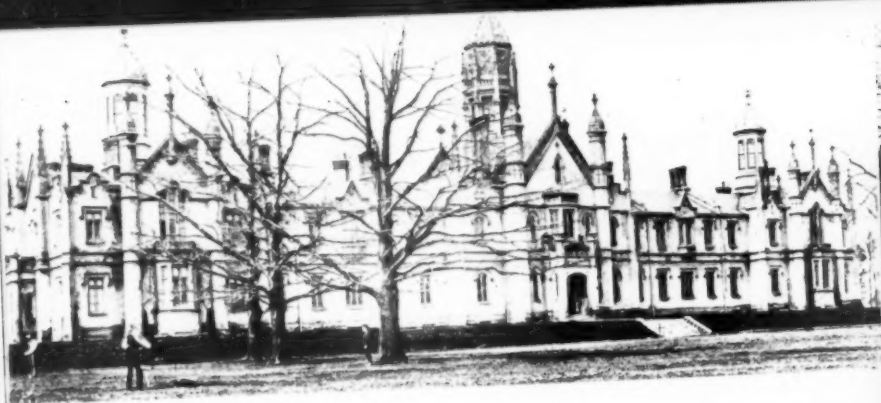
CHURCHES

Ecclesiastical Gothic in Canada begins, properly speaking, with Notre-Dame, Montreal, architect James O'Donnell, in hand 1824. In spite of its detailing it was a simple Regency box with galleries, 3, which Bourbeau was later at pains to camouflage, 4, and to which he wished to add an apse, seen in his drawing, 5. Without towers when Bartlett's engraving, 6, was made in 1836, its west front, 7, now primly emulates its Parisian namesake. For the variety of other Revivalist church-building, note the early simplicity, 8, of Belfast, Prince Edward Island, 1820; the later erudition of Holy Trinity, Toronto, 9, by H. B. Lane; the Frenchness, 10, of St. Patrick's, Montreal; the rural Englishity of Thomas Wills in his cathedrals at Montreal, 11, and Frederickston, New Brunswick, 12; and of a Wills follower at Burton, N.B., 13; while St. Paul's Presbyterian in Hamilton, Ontario, 14, has the tougher, mid-century air.





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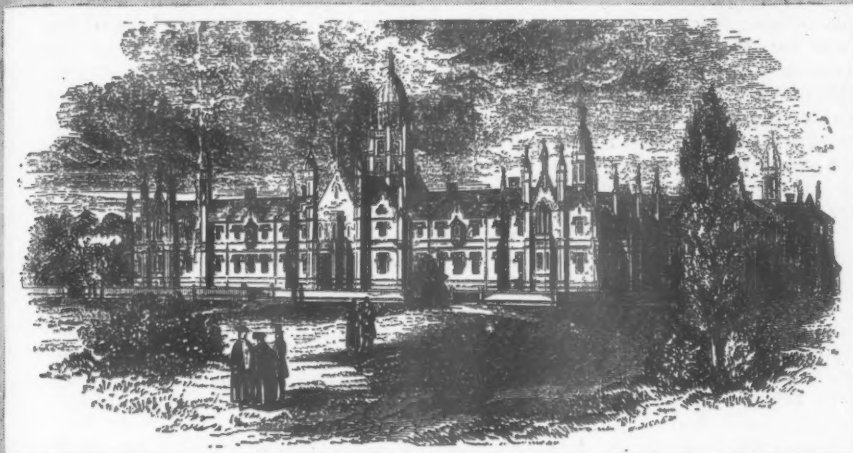
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Collegiate requirements also bred Gothic, the two most notable pioneer works being Kivas Tully's Old Building at Trinity College, Toronto, 15, seen in a contemporary woodcut in 24, and, therefore, in its true light; and the building which is now University College, Toronto, 16, where protracted manoeuvring by the architect, F. W. Cumberland, the vice-

COLLEGES

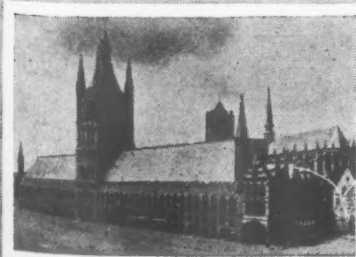
chancellor, John Langton, and the Governor of Canada, Sir Edmund Head, finally resulted in a building which inclined more to Romanesque than Gothic, as the entrance, 17, shows.



Provincialisms vanish from Canadian Gothic in the Parliament buildings in Ottawa, and the style flowers in Ruskinian splendour. The complex, seen in 18, comprises East and West blocks, by Frederick Stent, 1861; the main block, rebuilt after the fire of 1916; and the Library, resembling a chapter-house, which survived from Thomas Fuller's original scheme of 1861. Stent's East and West blocks are seen nearest and farthest from the camera in 21, and separately in 19 and 20 respectively. But the

PARLIAMENT

main glory was Fuller's centre block before the fire, seen in construction in 22, and the remarkable library in 23. The architect's drawing, 25, shows his intentions, and his dependence on remote historical sources like the Cloth Hall at Ypres, 26, and such contemporary ones as the Oxford Museum, 27.



Davis¹¹ than with their English prototypes. At St. Patrick's, Montreal, by the Jesuit Father Félix Martin¹² in 1847, the design of the apse was remarkable in its period for its simplicity and purity of line.

An increase in archaeological knowledge is apparent in two larger buildings, by Frank Wills¹³ of Exeter and Salisbury who came to Canada in 1845 in order to design Christ Church Cathedral at Fredericton, New Brunswick. In preparation for this task the Bishop had commissioned him to study Snettisham Church, Norfolk. The proportions of Wills' building, which stands in its green close like a miniature English cathedral, resembled those of the true Gothic for the first time in Canada, and distinguished his design from the usual and more spindly products of the age. His other large church was Christ Church Cathedral in Montreal,¹⁴ designed in 1856. As at Fredericton there is Decorated tracery and a spire over the crossing which owes much to Salisbury. I am inclined to think that a pair of country churches at Burton and Mauderville in New Brunswick also derive from Wills, despite the legend that they were framed in England and shipped across the Atlantic. They exemplify the care for effective massing of forms and the understanding of light and shadow which are seen in his known work. Another Englishman, William Thomas,¹⁵ designed buildings of some distinction, such as St. Paul's (1857) at Hamilton, Ontario, with its curvilinear tracery and graceful spire which, though more fragile than its medieval counterparts, is one of the best monuments of the Gothic Revival in Canada. The old building of Trinity College, Toronto (1851) by Kivas Tully,¹⁶ adopted the English college building as its model; but the turrets and pinnacles elongated into minarets gave the building an Islamic flavour.

The two most impressive landmarks of the Revival were built in the later 'fifties. The first, not Gothic, was one of the rare examples of Romanesque in America prior to Richardson's revival of that style in Boston twenty years later. This choice of style accounts for the unusual massiveness of the design of the University of Toronto (now University College, Toronto), begun in 1856 under Frederick

¹¹ An example was the University of Michigan, 1838 (Newton, *op. cit.*, plate 43).

¹² Père Félix Martin (1804-1886), a French Jesuit, had made a study of medieval art before coming to Canada in 1842. See P. Desjardins, *Le Collège Sainte-Marie de Montréal* (Montreal, 1940), I, part II.

¹³ F. Wills of Exeter and Salisbury exhibited at the Royal Academy between 1842 and 1845 (Graves, *op. cit.*, VIII, 302), but was mainly active in the United States. Mr. John Coolidge of Harvard University has kindly supplied me with a list of some 20 churches by the firm of Wills and Dudley in New York, dated between 1840 and 1856. Wills was the author of *Ancient English Ecclesiastical Architecture* (New York, Stanford and Swords, 1850).

¹⁴ P. J. Turner, 'Christ Church Cathedral, Montreal,' in *McGill University Publications*, Series XIII, No. 17 (Montreal, 1927).

¹⁵ Thomas (1800-1860) was born at Stroud, Gloucestershire, and died in Toronto; he came to Toronto about 1840 and designed many early buildings there (St. Michael's Cathedral, 1845). He was responsible for the training of a number of Canadian architects of the following generation.

¹⁶ Tully (1820-1905) was born in Ireland and died in Toronto; he came to Canada in 1844 and became eventually architect and engineer for Ontario.

William Cumberland.¹⁷ A lively narrative by John Langton,¹⁸ vice-chancellor at the time, explains how the style was arrived at, and throws light upon the position of the architect in relation to his dilettante patrons. The Governor of Canada in 1856 was Sir Edmund Head, Bt., who had translated a book on painting and therefore considered himself an authority on art. Disapproving of Cumberland's first Gothic designs, Head recommended as a model the Palazzo Comunale at Siena. This the horrified Langton thought the ugliest building he had ever seen. Later the Governor's fancy turned towards the Byzantine, in which style he and Cumberland 'concocted a most hideous elevation.' Then, during Head's absence from Toronto, Langton and the architect 'polished away almost all traces of the Byzantine and got a hybrid with some features of Norman, of Early English, etc., with faint traces of Byzantium and the Italian palazzo.' But this was not the end of the matter. When Sir Edmund returned and inspected the site, he insisted that the whole building be turned at right angles to its position on the plan, thus making a complete revision necessary. A magnificent elm standing in the way of the shift saved the day, but the Governor had the last word: 'You Canadians have a prejudice against trees,' he said; 'for I am sure that you can never put up anything half as pretty.'

Cumberland's design owed its general disposition to English models, but as the building was intended to house an entire university, it included not only the usual quarters for college members, dining hall, and library, but also a convocation room and other apartments. The chemical laboratory was housed in the round 'chapter house,' while a monastic touch was imparted by the small lavatory building with clerestory at the edge of the courtyard! The taste for picturesqueness is fully evident in elevations which show the greatest possible amount of variety in

¹⁷ Cumberland (1821-1881) was born in London and died in Toronto. He had had some association with Barry before coming to Canada in 1847.

¹⁸ Quoted in W. S. Wallace, *History of the University of Toronto* (Toronto, 1927), 74.

the heights of the various blocks, in the shapes of towers and roofs, and in fenestration. The building's best feature is its detail. The geometric Norman carvings about the main entrance portal and the windows on the south front contrast strikingly with the rough-cast walls and are infinitely preferable to the frost-bitten foliage on most nineteenth-century buildings of Gothic design.

The other outstanding monument of the Revival was the Parliament group, laid out in regular fashion on the cliff above the Ottawa River at the new Canadian capital in 1859. Construction began in 1861 and the buildings were finished in time to receive the first Parliament after Confederation (1867).¹⁹ Of the three buildings, the central or Parliament block was designed by Thomas Fuller,²⁰ known also for his contribution to the polyglot State Capitol at Albany, New York. A drawing of the river front of the Parliament building shows the influence of the Oxford Museum, begun in 1855 by Deane and Woodward with a prayer from Ruskin. Both designs had chapter houses—at Ottawa this became a library; both had 'chromatic' or 'Venetic' stonework from Italy. Fuller's building also had towers from Germany and roofs from France; and its front was dignified by rows of very pointed windows and a tower which reflected his study of the Cloth Hall at Ypres. Yet the style was officially described as Early English! The general result was, however, a building considerably sturdier than the Oxford Museum, while the Library, for all its wedding-cake ornateness, is probably the most graceful building of its period. In 1916, the Parliament building, with the exception of the Library, was destroyed by fire, and was replaced by the present larger structure.

An aerial view of Parliament Hill in

¹⁹ *Sessional Papers*, Vol. 5, part 1 (1867-8) contain a general contemporary report and description (pp. 201 ff. and 247 ff.). Trollope saw the buildings under construction in 1861 and published an enthusiastic account in his *North America* (Philadelphia, 1862), 78-80.

²⁰ Fuller (1822-1898) was born at Bath, England, and came to Toronto in 1856. At this time his partner was Chilion Jones; later he became chief architect of Canada.

Ottawa best shows the complex agglomerations of sandstone walls, slate roofs and iron erections which form the eastern and western blocks of the group. These were designed by Frederick Stent²¹ and built at the same time as Fuller's Parliament. Forests of pinnacles and turrets create a sky-line of ultimate richness, but at close range several unintentionally humorous touches are apparent. 'Random work' of irregular stones adorns the wall about the windows and great scowling faces like Indian masks glower from both storeys of the south-west tower of the eastern block, with small round windows for eyes and large arches for mouths. Sir John A. Macdonald, a practical-minded man, compared the tip of the western block tower to a cowbell.

In spite of their detail, the Canadian Parliament buildings have as characteristic a silhouette as Barry's more famous Houses in Westminster. But in addition to serving as a symbol of Canadian government, they are a perpetual reminder of that traditionalism which seems so paradoxical in a young country. A recently built Gothic ruin with which I am familiar is my evidence that the spirit of Canadian romanticism is not yet dead; while in painting, the work of our Group of Seven has an essentially 'Gothic' power in its expression of the northern landscape. The reactions of one Canadian writer at the beginning of the present century to the Parliament buildings is further revealing of this element in the Canadian outlook. Seeing in the Gothic the highest expression of man's aspirations, Wilfred Campbell meditated: 'In these buildings we have as a people, both French and British, epics in stone revealing to us our common artistic sense, our common ancestry, and our common Christianity. . . . We realize that we are but a newer phase of Europe, a rejuvenated colony of the great old mingled races. We are encouraged by the thought that mankind is a vast family.'²²

²¹ Frederick Warburton Stent of London exhibited at the Royal Academy in 1846 (Graves, *op. cit.*, VII, 247). In Ottawa Stent's partner was A. Laver.

²² Wilfred Campbell, *Canada* (London, 1907), 104-5.



23, the Parliament Buildings, Ottawa, from Major's Hill, 1882

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current architecture recent buildings of interest briefly illustrated.

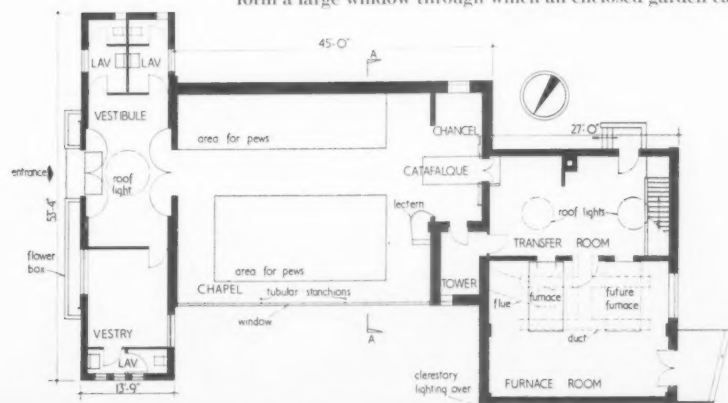


CREMATORIUM AT OLDHAM, LANCs

ARCHITECTS: SANGER AND ROTHWELL

This crematorium has been converted from a Nonconformist cemetery chapel by the addition of a transfer room and furnace room in place of the apse. The complete right-hand wall of the chapel has been removed and reconstructed to form a large window through which an enclosed garden can be

seen; space previously occupied by the mortuary has been incorporated in the chapel proper, which has been re-pewed and now seats about 130 people. The vestry, vestibule and lavatories form a low block in front of the chapel. The original ceiling has been raised and given a slight curve, and the side walls are sloped inwards to give an illusion of additional height. The new external walls are of cavity construction with a stone facing and an inner skin of brick. The main entrance door and vestry window are set in a panel of polished Derbyshire fossil marble. Chapel walls and ceilings are plastered, except for the tower wall, which is of natural York stone. The chancel walls are lined with acoustic tiles, except for the wall to the furnace room, which is of pale blue glazed tiles. Heating is by panels embedded in the vestibule, vestry and chapel floors. The catafalque and concealed door opening gear are of a new silent type and can be operated either electrically or by hand. Music is provided by a record player and amplifier in the base of the tower.



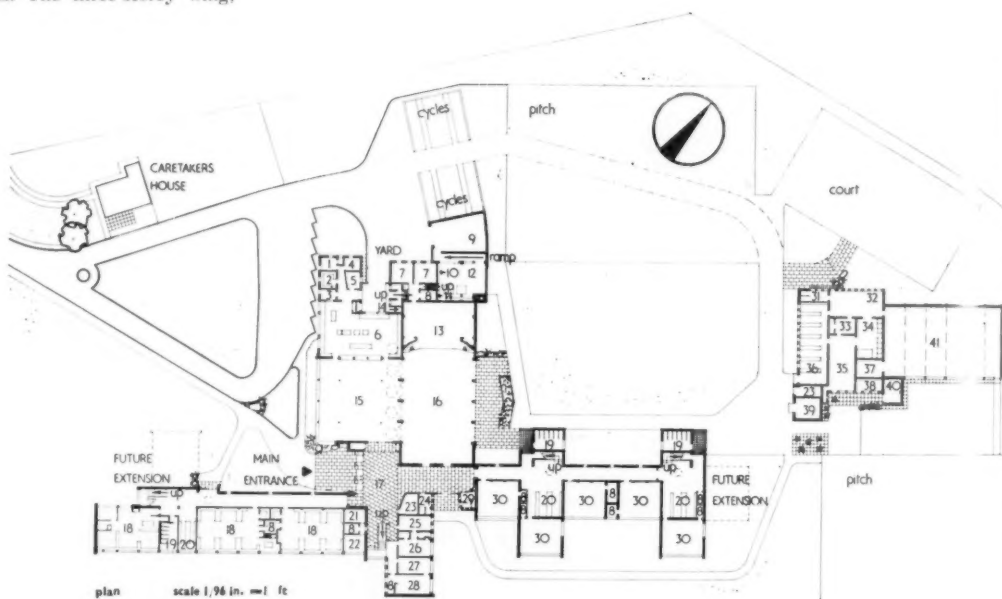
SECONDARY SCHOOL AT FELTHAM, MIDDLESEX

C. G. STILLMAN, County Architect, E. MASON, Area Architect, L. J. FOX, Architect-in-Charge

This section of the Lafone Secondary Modern School for girls accommodates 560 pupils and forms the first instalment of a four-form entry school, which will eventually take 680 children. The site, which is level and of 34 acres, is later to contain a boys' school. Practical rooms are in a three-storey block to the west, and classrooms in a two-storey block to the east, linked by the entrance hall to the assembly and dining halls. Gymnasium and changing rooms are in a separate building to the east of the main block. The only corridors are on the ground floor and these are short. All teaching rooms have natural light from two directions. The three-storey wing, assembly and dining halls are steel-framed and have precast concrete floor and roof units. The two-storey block has load-bearing brick walls and prestressed precast concrete floor and roof units spanning 24 feet to classrooms, used here for the first time in a Middlesex school, and normal precast concrete units to lavatories. The gymnasium has a post-tensioned prestressed concrete frame and the changing rooms have load-bearing walls and precast concrete roof units. Most bricks are Buckinghamshire facings. Concrete facing slabs—8 feet long, 9 inches high and 2½ inches thick—are finished with calcined flint aggregate. Sills, copings and window surrounds are of slate. Steel windows are purpose-made; the three-storey staircase windows have timber frames. External door frames are of hardwood. Roofs are finished with three-layer bituminous felt, except the assembly hall, which is covered with copper.



2, the main entrance hall. 3, the west wing containing practical rooms.



3

- key**
- 1, kitchen staff lavatory.
 - 2, dry store.
 - 3, kitchen office.
 - 4, larder.
 - 5, vegetable store.
 - 6, kitchen.
 - 7, dressing room.
 - 8, store.
 - 9, fuel yard.
 - 10, fuel store under dressing room.
 - 11, pumps under store.
 - 12, boiler house.
 - 13, stage.
 - 14, chair store under stage.
 - 15, dining room.
 - 16, assembly hall.
 - 17, entrance hall.
 - 18, housecraft room.
 - 19, girls' lavatory.
 - 20, cloak.
 - 21, stationery store.
 - 22, head of evening department.
 - 23, switch room.
 - 24, male lavatory.
 - 25, waiting room.
 - 26, M.I. room and rest room.
 - 27, secretary.
 - 28, head.
 - 29, female lavatory.
 - 30, classroom.
 - 31, lavatory.
 - 32, gymnasium changing room.
 - 33, instructor.
 - 34, showers.
 - 35, games changing room.
 - 36, lockers.
 - 37, gymnasium store.
 - 38, games store.
 - 39, electrical sub-station.
 - 40, heating.
 - 41, gymnasium.





4

RESTAURANT IN WIGMORE STREET

DESIGNER: JAMES CRABTREE

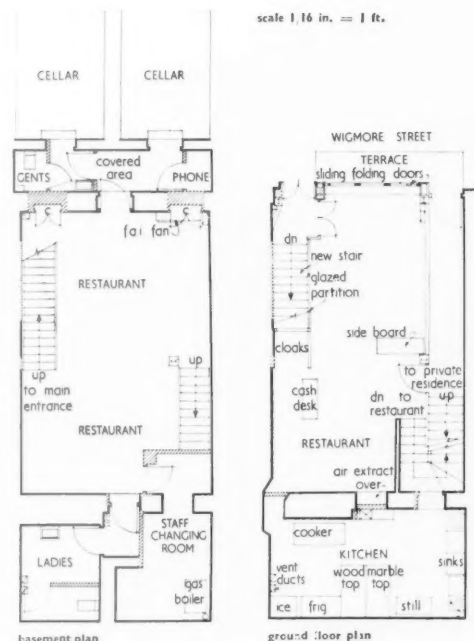
ASSISTANT: PERCY RICKMAN

The premises before alteration consisted of a ground floor restaurant and a kitchen in the basement. To increase the seating accommodation the kitchen was moved to an area at the back of the ground floor, and a bar will later be installed in the basement. It was found that the house had settled badly, and therefore the two lower storeys are now supported on a steel frame standing on new mass concrete foundations. As a fire precaution it was necessary to construct a new stair from the entrance lobby to the basement, divided from the upper restaurant by a glazed, fire-resisting screen. The front of the ground floor area can be opened up to the street by the use of sliding-folding doors, behind which are Venetian blinds. The fascia is of wood, protected by a clear cellulose varnish, and the lettering is made of laminated wood. Colours used on walls include light grey, mustard yellow and dark red, and ceilings are dark grey.



5

scale 1/16 in. = 1 ft.



4, street front, and, 5, part of the basement, with the new staircase on the right.



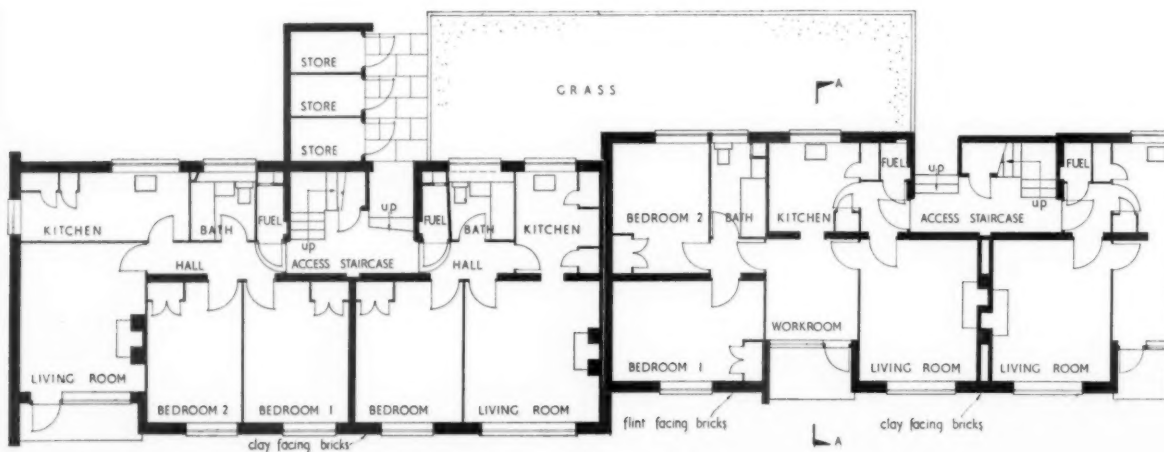
6, the block from the north-west.

FLATS AT CATFORD, LONDON

ARCHITECTS: FRY, DREW & PARTNERS

This block of 30 flats lies on the east side of the main Bromley Road. On the east side of the block are tenants' stores, a gas-heated drying room and a children's playground with gravel surface. There are three one-bedroom and twenty-seven two-bedroom flats, some of which have a separate workroom. For the greater part of its length the block is four-storeys high, but the six flats at the north end are in a wing of three storeys. There is staircase access, each staircase serving two flats on each floor. The majority of the flats have a

recessed private balcony on the west side. The construction is of calculated load-bearing brickwork with reinforced concrete floors and roof slabs. Variety is given to the façades by the use of two types of facing brick, flint bricks and clay bricks, of different colour and tone. The ground floor slab is of 6-inch thick waterproof cement reinforced concrete on weak cement concrete blinding 1 inch thick. Floor finishes are wood composition throughout, except for staircases, which are granolithic.



part ground floor plan of three- and four-storey block scale: 1/16 in. = 1 ft.

THEATRE MACHINERY

NINETEENTH CENTURY RELICS AT THE THEATRE ROYAL BATH

With each succeeding year the relics of early stage machinery become increasingly rare, such items as remain, long since devoid of meaning, linger on only because their removal would entail an expenditure of time and money. The stages of our traditional theatres were largely equipped with timber and today, whenever the opportunity arises, these timber structures are removed to obviate the risk of fire. The understage machinery of the Theatre Royal, Leicester, as illustrated in the journal *Wood* for August, 1948,¹ has since that date been swept away in a drastic reconstruction, and only a happy chance enabled the author to record these items before they were lost to memory. Similar items must remain elsewhere whose record would add to our knowledge of past scenic conventions, and I would appeal to architects concerned with theatre alterations to take particular note of any such items—particularly those whose use is forgotten—before they are finally disposed of.

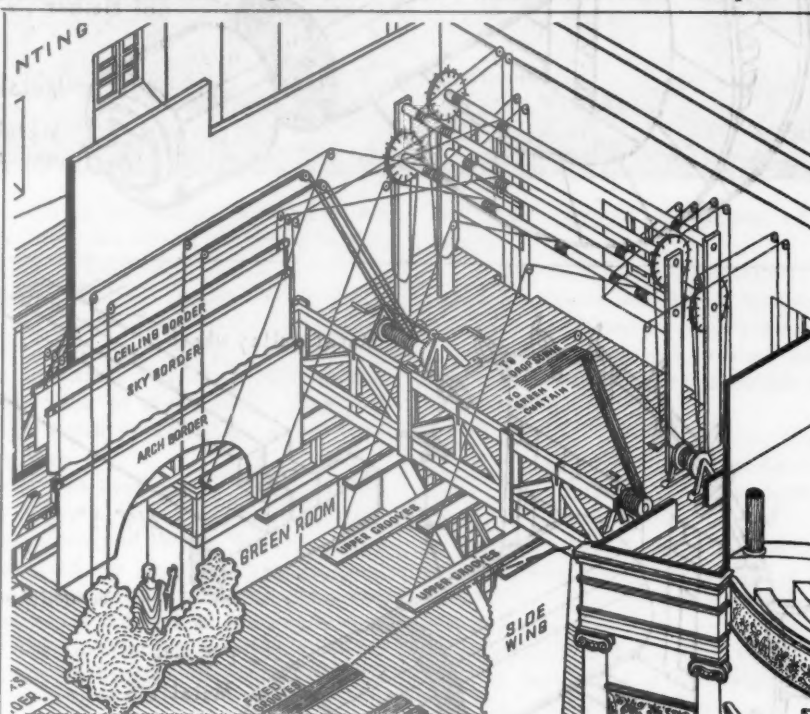
During the eighteenth and nineteenth centuries the scenery of our playhouses was changed from scene to scene in full view of the audience, sometimes by hand and sometimes by machine; such was the nature of the scenic layout that the various items of scenery had, at times, to be moved as a unit, and for this purpose machinery was essential. As the scenic items to be moved were usually spaced at intervals from front to rear of the stage it followed that the motivating power had to be similarly dispensed, and the machine which was used to disseminate the power generally took the form of a timber roller. Rollers of this type may be seen in contemporary architectural drawings of the period, and their usual disposition is well illustrated in the drawings of Foulston's Theatre Royal, Plymouth. The relative portion of a reconstruction of this theatre² is illustrated here, 1, and in this particular example separate rollers are shown each driving one form of scenery; one roller raising and lowering the *Upper Grooves*, another activating the *Arch border*, a third the *Sky border* and a fourth the *Ceiling border*.

It is just such driving elements which still exist in the Theatre Royal, Beaufort Square, Bath, and which form the subject of this article. Situated in a similar position to their corresponding units at Plymouth, above the working or prompt-side fly-gallery, six rollers remain, no longer used, indeed their purpose unknown

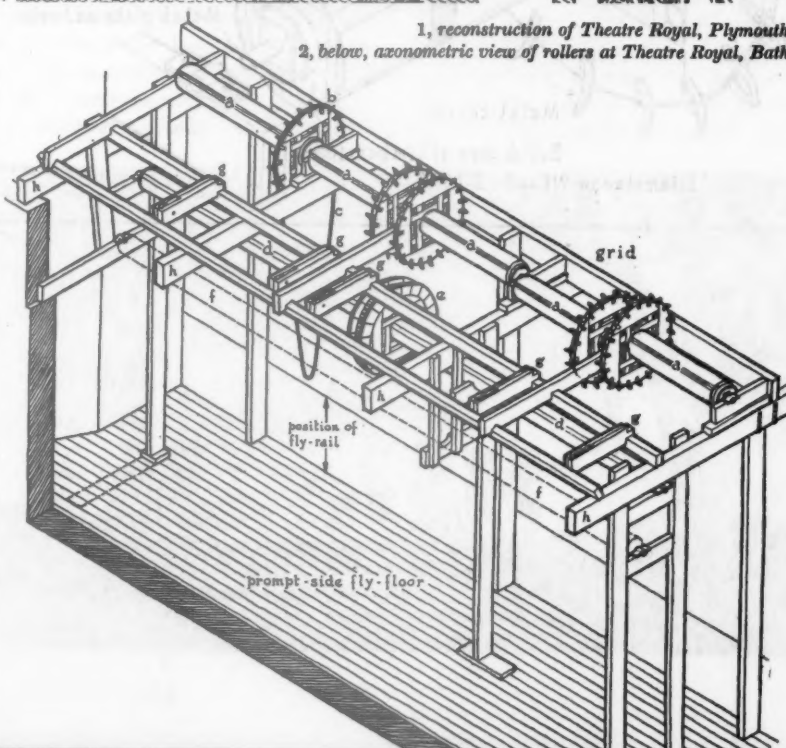
to the theatre staff, but nevertheless too large and cumbersome to remove.

The rollers are of two types and their general form and disposition may be seen in the axonometric drawing, 2. The rollers are carried in the main by the four beams (h, h, h, h,) these beams form the lower members of the main roof trusses, the upper portions of the trusses being omitted

from the drawings for reasons of clarity. In addition, some vertical struts are required which are largely supported by the prompt-side fly-floor; these vertical units are used to support the continuous roller (d) which runs from front to rear of the acting area of the stage, and they also provide support for a further similar roller which must have occupied the

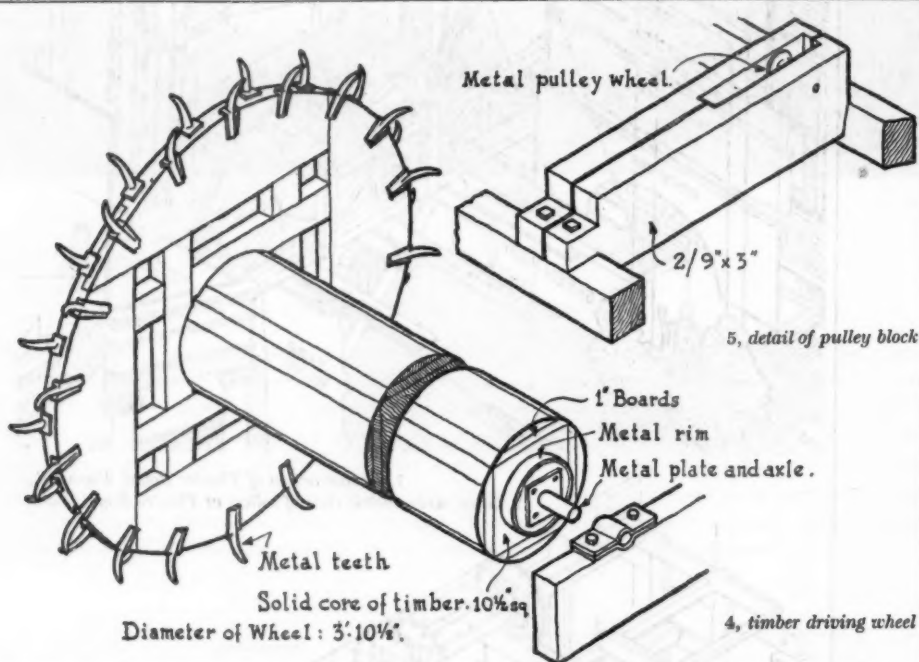
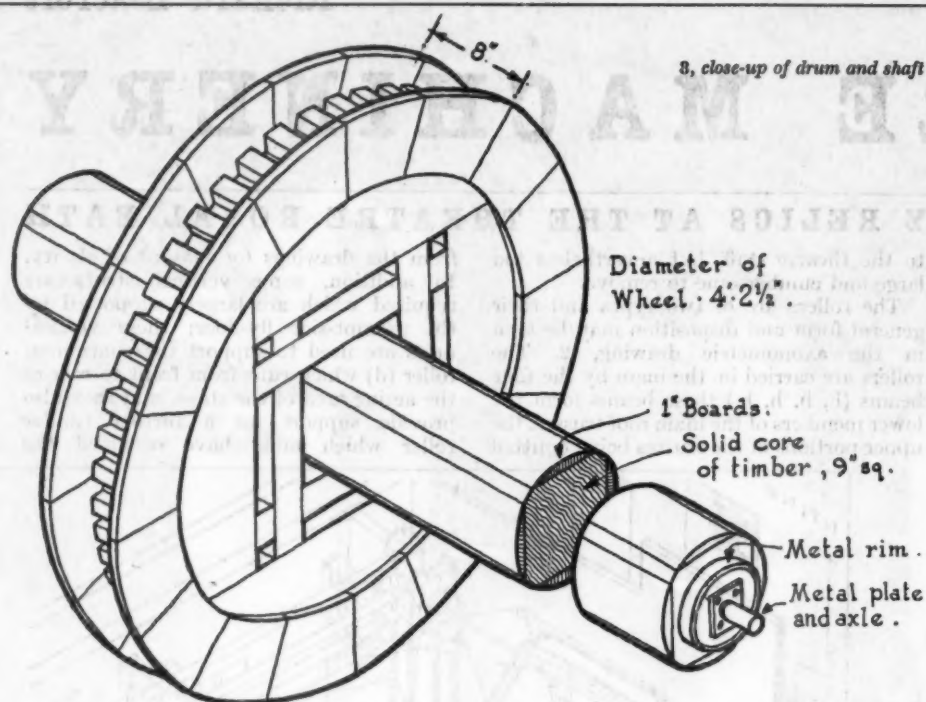


1, reconstruction of Theatre Royal, Plymouth,
2, below, axonometric view of rollers at Theatre Royal, Bath.



¹ 'The Wooden Stage of English Tradition,' Southern and Leacroft, *Wood*, August 1948. The historical scene grooves recorded here were preserved through the action of the Society for Theatre Research and are now in the care of the City of Leicester Museum.

² See 'The Theatre Royal, Plymouth,' by R. Leacroft, *RIBA Journal*, May 1952. Also *Changeable Scenery*, R. Southern, Faber, 1952.



position shown dotted (f). The roller (d) was activated by a rope fastened around the drum (e) and driven by a windlass fixed to the fly-floor, the movement being distributed to the various items of scenery by ropes attached to the roller or shaft (d). A similar movement may still be seen driving the paint-frame at the Leicester Theatre Royal.³ A detailed drawing of the drum and shaft at present under consideration may be seen in 3.

The remaining five rollers (a, a, a, a, a) are all alike, their only difference being in the lengths of the shafts, these being suited to the spaces between the roof trusses. This set of rollers contrasts with the former unit in being designed to be used for the movement of individual units of scenery and their method of propulsion is indicated at (b), 2, where a continuous rope may be seen placed around the driving wheel and hanging down to within easy reach of the fly-floor. An inspection of the detail drawing, 4, will disclose that the timber driving wheel is fitted with metal spikes which curve gently outwards; when the rope is pulled in either direction it is dragged down between the teeth and is then held with sufficient tenacity to cause the wheel to turn. As each section of the rope reaches its tangential point of contact with the wheel it is automatically loosened from between the teeth. The item of scenery is driven by a rope attached to the drum (a), and is counterweighted by a further rope attached to the same drum and carried back over a pulley block (g) to a weight. A detail of the pulley block may be seen in 5.

As may be seen from the details, 3 and 4, all the shafts or rollers are built on a solid timber core with the addition of 1-inch boards, the whole being carried on two 1½-inch metal rods screwed to either end of the shaft and rotating between metal plates. The actual date of this machinery is difficult to assess; it is, however, probable that it dates from the rebuilding of the theatre in 1863. It is unlikely that it forms a part of the equipment of the original theatre built in 1805 as the interior of this building was totally destroyed by fire on April 18, 1862.

note The author would like to take the opportunity of expressing his thanks to the manager of the theatre for making this survey possible.

³ See upper portion of the illustration on page 226 of Wood, August, 1948.

The name *miscellany* implies, of course, an architectural miscellany—one that will include subjects which, though marginal to architecture, are nevertheless vital to it.

miscellany

WORLD

ARCHITECTURAL LEEVE AT CANBERRA

For years Canberra has hung in protracted adolescence. Walter Burley Griffin's involved and dramatic plan for Australia's capital city was laid in 1912 in a fertile but lonely valley in southern New South Wales, but the plan spread the requirements of the infant capital far apart. Now some of the gaps are filling more

rapidly, not only with Australian Government buildings, but with the embassies, chancelleries and departmental offices of the representatives of other nations.

In this conspicuously new-world setting, each nation has decided it must display its own national architectural character.

The American Embassy group set the example, 1 and 2. It was finished two or three years ago, before the 'clean, friendly' new look in USA's exported architecture was instituted. It was conceived as a little Williamsburg, and is in the pure Norman Rockwell style. Three separate scrubbed red and white Retired Colonels' homesteads stand in a billowing expanse of new lawn, still set with three or four kindly old gumtrees manfully doing their best to look deciduous.

Other nations had no intention of letting the USA get away with this coup. They embarked on projects apparently calculated to make Canberra the architectural equivalent of a full-dress diplomatic reception. Unfortunately, because the falsity of



the costumes becomes so apparent in the bright light, the city is beginning to look more like a fancy-dress party.

The British High Commissioner's island office block near Parliament House is the latest diplomatic building to be finished. It is Whitehall Export Modern and is clearly made of stern stuff, capable of keeping a stiff upper lip in the southern hemisphere, 3.

The symmetrical façade is almost startlingly negative. It was designed in London by the Ministry of Works. Advance scouts reconnoitred for the Ministry for some time, combing Australia for materials worthy of the conception. They sent back reports of conditions and samples, but it is evident from the size and orientation of the windows that the package containing Canberra climate leaked while passing through the tropics. Or, if the designers were aware of the benign nature of Canberra's weather, they had no patience with it.

Other nations similarly have taken a

firm stand against recognition of the climate.

The domed Pakistan Chancellery, just begun, has narrow slit vertical windows. It has been publicized as incorporating 'a mixture of eastern and western ideas,' including exquisitely pierced marble slabs to the lavatory windows.

France is the latest country to propose a new Canberra building but no sign of its plans, being prepared in Paris, have yet been seen in Australia.

Australia's own bureaucratic contributions have been non-committal, but at least gave no indication that the hostess desired that guests should dress. On the contrary her approach to attire has been delightfully informal. In the case of the National War Museum, for instance, she accepted the dome from one competitive design and the rest of the building from another.

The Swedish Legation is indubitably the best of the international bunch, and in 1953 it won a prize for public buildings



1

2



(the Sulman Award), 4. It was designed in Sweden by E. H. G. Lundquist and supervised by the Sydney firm of Peddle, Thorpe & Walker. Being long and low and white it is vaguely reminiscent of the best Old Colonial homesteads of New South Wales. By this association it seems the happiest of all the foreign elements in the broad Australian garden. But it is heavy with the responsibility of looking Swedish and bears an Empiricism which can hardly even be called New.

Sometimes the national fancy-dresses become confusing. Indonesia has its headquarters in a white Colonial Tudor house under a high-pitched, green tiled roof beset with dormer-windows. Japan was angling recently to buy a fretworked Bavarian mansion built by ex-Germans. Russia so far has remained aloof, settling her representatives in an established, nondescript house.

But despite all the architectural chauvinism, despite architecture itself, Canberra is beautiful. Thanks to the bewilderingly inconvenient variety in Griffin's plan, to nature's ring of wooded hills, and to the wise and well maintained planting programme now directed by Lindsay Pryor, Canberra proves the insignificance of bad building. The worst that international bureaucratic architecture can do is almost acceptable when it is disciplined by an imaginative street pattern, and lightly veiled by clever contrasts of exotic trees, and set against the pervading background of dark evergreens splashed unexpectedly with the shrill yellow of the woolly wattle.

Robin Boyd

EXHIBITIONS

PAINTING AND SCULPTURE

The LCC found in Battersea Park the perfect setting for open air exhibitions of sculpture, but it has every right to experiment with other settings, and the one at Holland Park might have seemed moderately suitable if the Committee of six

experts appointed by four semi-official bodies to select and arrange the exhibits had assembled a less ill-assorted group of works or sited them more judiciously. Short of hiding them in the bushes, it would have been difficult to find suitable places for the large, obtrusive, immature works by very young sculptors, or for the examples of stale avant-gardism sent in by Laurens, Archipenko and Zadkine, or for the hideous yellow cast of a carving from the Parthenon, but if Moore's draped Reclining Figure and Rodin's undraped Study for a Calais Burgher, which are works of great nobility and power, had been given key positions on open ground, some of the other things would have had to take the less conspicuous places they deserve. As it is, the Moore is in a corner of the glade dominated by Laurens's piece of pumped-up homage to the Venus of Willendorf, and the Rodin is on a terrace in a row of standing figures terminated by Wotruba's reclining figure, a tableau which vividly recalls the guardsman who fainted on parade.

It is pleasant to be able to record that Barbara Hepworth's tasteful but somewhat featureless Form, 1, has been admirably placed amidst a group of sword-leaved

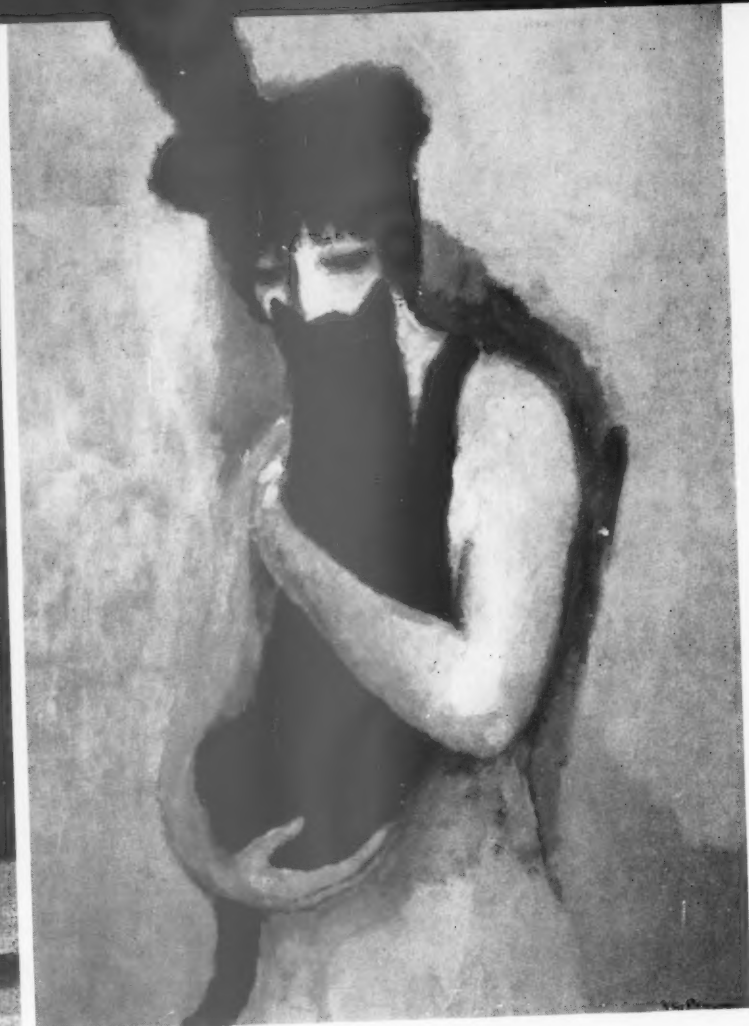


plants, and if the rectangular abstract by Adams had been sited with the same care it might not have looked like a fireplace rescued from the ruins of Holland House. The recent Horse and Rider by Marini does not look effective at a distance, but it is a brilliant study of violent activity: the horse rears into a vertical pose and the spread-eagled rider slides head first down its back. Marini seems to be left with one further move in this direction, and when the horse, too, has toppled over backwards, he may recall that his quieter images of the horse and rider were considerably more than studies of movement.

In his Foreword to the Goya exhibition of drawings and etchings at the Arts Council Gallery, Mr. Philip James remarks that Goya is an artist who seems to 'express the spirit of our own age.' It may well be so, for although there is a balance of forces in the great battle waged between the lights and the darks in Goya's graphic works, 2, which will be admired as long as any value at all is attached to the creative act, the imagery achieves no such equilibrium. Goya pointed confidently, even exultantly, at cruelty, folly and corruption, but scarcely knew where to turn for evidence of their opposites, and in the end it is the dead and outraged human carcase that has to stand for virtue. Goya created a world whose values are as confused as our own: we share with him an automatic quiver of the nerves in the face of pain and wretchedness, and confuse the sensitiveness of our tissue with an ethical response.

The first London exhibition of Kees Van Dongen, who is now seventy-seven years old, has at last been given at the O'Hana Gallery. The selection emphasized his desire to remain a good Fauvist throughout his long and successful career, and no examples of his huge, fascinating portraits of the smart set of the twenties were included. Van Dongen has a rowdy talent, and he is at his coarse and zestful best when he depicts the obvious enchantress or the flashy gathering. *Le Femme au Chat*, 3, is one of his rare concessions to refinement.

The *Observer* exhibition of Portraits of Children contained three hundred works in many styles, and was presented with an accompaniment of soft music which was probably intended to provide the harmonious atmosphere which the hanging had no chance of achieving. Several works were pictorial comments in the manner of the American painter Bernard Perlin, whose *Orthodox Boys* hangs in the Tate, and the best of these was Peter Blake's painting of two large-headed boys with their hands stuffed truculently into the pockets of their short trousers: one of them had no less than five badges pinned to his jacket. Elinor Bellingham-Smith sent a portrait of two very small boys



2, 3
4, 5

exhibitions: painting and sculpture



sitting bolt upright in a large pram, and she somehow managed to convey the entrancing impression that they were already Old Etonians. This was probably the most accomplished work on view, but Evelyn Williams contributed a macabre painting of a baby in a long white gown which, together with her *Girl with a Cat*, 4, gave her a very special place in the exhibition. The use of a naïve technique in her picture of the girl with a cat almost persuades one that she has depicted the child's own evaluation of her environment.

Jack Smith has been holding a one-man show at the Beaux Arts Gallery, consisting of twenty-five large paintings, which reveals crude, unmistakable evidence of vision. He has created a bleak, but poetically self-contained world, whose interiors with bare tables and drying cloths are matched beyond the window by heaps of stones and approaching storms. It does not strike one as a distorted view of reality, but rather as a faithful reflection of an almost mystical belief in frugality. A child remains at the centre of this world, and in several pictures is involved in a stubborn struggle to walk alone, 5.

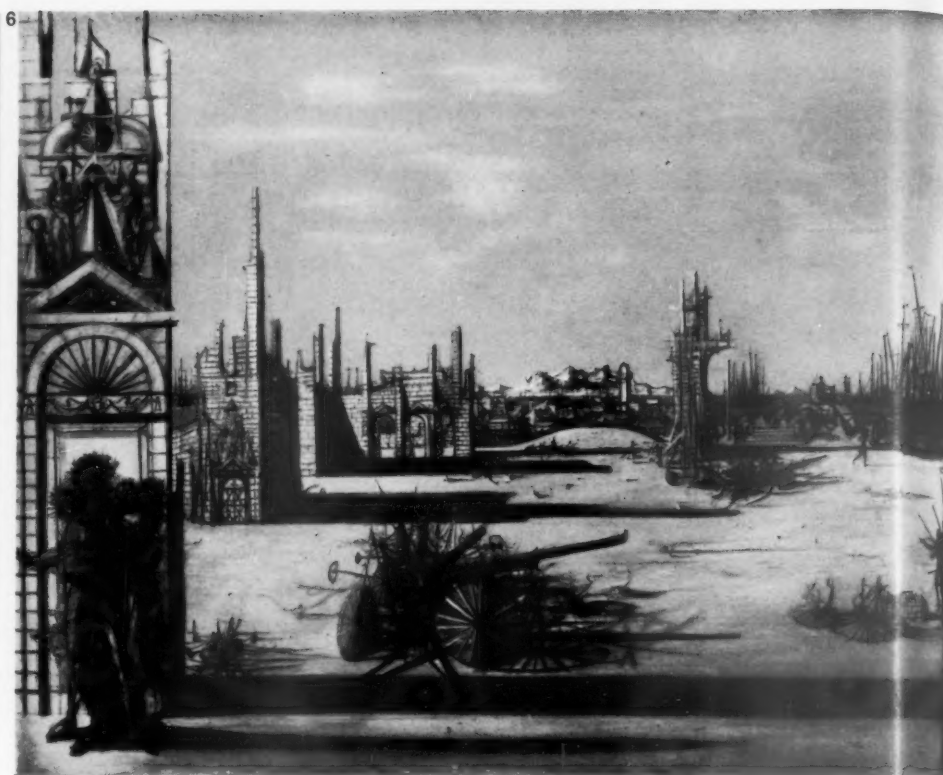
The popular French painter Carzou has been showing at Arthur Tooth and Sons. His decor-like fantasias, 6, are more successful than his studies of actual places, and they give him the opportunity to draw complicated little vehicles and broken-down artillery in a fetchingly fizzy line.

Robert Melville

CRITICISM

REBUILDING THE CITY

The granting of more building licences for the City of London means that the problem of ensuring that the large view is taken and the charms of the City enhanced rather than its character destroyed, is becoming more



and more acute. This is in addition to the problem of achieving a higher standard of design in individual buildings.

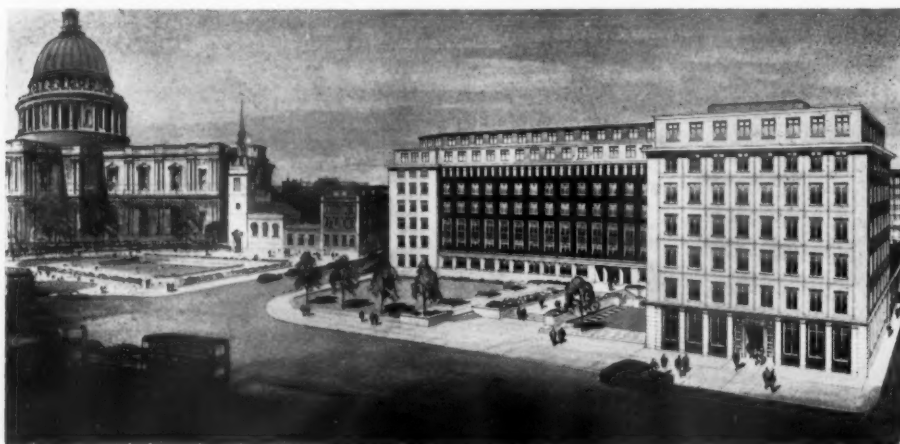
As regards the relation of each part to the whole, the planning department of the City Corporation has recently shown a welcome initiative, and is trying to co-ordinate plans with the aid of block models of the several areas, which it discusses with the LCC and the developers concerned. These discussions must be supported in all ways possible, in the hope that it will not prove too late to prevent the total disaster about which a warning was given in these pages two months ago.*

The minatory tone of that article was, the author had no doubt, wholly justified by a glance at the appearance of most of the buildings so far put up in the City, and of each new project that is made

public. The latest is reproduced below. It is the design for an office block by Trehearne and Norman, Preston and Partners, to be called Gateway House. It illustrates specially well the perils the City faces. It is to stand near the east end of St. Paul's Cathedral, and the architects (who were also responsible for the much more attractive block in Bridewell Place, Blackfriars) have, because of this, been made to conform to a preconceived scheme of cornice lines and facade treatments that has made fresh contemporary design almost impossible.

This raises the question whether the right way to pay respect to an historic monument is to embellish new buildings near it with reminiscences of period styles, as in the lower part of the right-hand wing, facing Cannon Street, and in the vestigial classical cornice that surrounds the whole block, and to impose on it a disposition of window openings and a system of proportions that are clearly inspired not by the essential character of the structure but by a desire to be politely in keeping with tradition. Surely a frankly modern treatment, sensitively handled, would achieve dignity of a more worthy kind? Respect for neighbours does not lie in stylistic devices, but in proper control of massing, scale and silhouette.

As a piece of architecture, Gateway House, not being so heavy, gives less offence to the eye than some of the blocks of offices illustrated in the June article, but unlike some of them it is also open to



* *Rebuilding the City*. By J. M. Richards. A.R. June, 1954.

criticism for the way the site has been used. To retain the view of St. Paul's from the south-east, opened up by bombing, is an admirable aim up to a point, but the set-back given to this building, providing a formal garden contiguous with the somewhat unfortunate garden laid out a little further west in 1951, produces—if this perspective drawing is a true representation—an effect of openness, even of emptiness, quite out of character with the intricacy and sense of enclosure that belongs traditionally to the City.

The idea is still too widespread that good planning means providing bigger spaces and being able to see the whole of every building at the same time. J. M. Richards

LETTERING

IONIC

Ionic, or Clarendon, is familiar to all readers of THE ARCHITECTURAL REVIEW as a type face. It can also be pleasing and useful as an architectural letter. It is a cross between an Egyptian and a Roman, below. One can think of it as an Egyptian with a curve softening the ruthless angle where the slab*



serif meets the letter stem as in 1, *Tobacconist*, or as a Roman with the points chopped off the ends of the serifs, signifying by this sacrifice an abandonment of any



attempt to carry the quest for perfection or seriousness to its final limit. Either way it is a compromise letter. But that is the sort of letter which we need a good deal in the ordinary more or less ephemeral transactions of visual design, provided it is used with style and imagination. The classical end of its scale, which allows for more subtlety of design, since it includes differentiation in line-width, seems to me a field full of possibilities. That is why I prefer its classical name—Ionic.

The name seems to have been invented by the type-founders in contrast to *Doric*,† an early name for sans, in the eighteen forties; and one sees their meaning in

* e.g. 'LETTERING' in label, this column; main titles such as p. 75.

† One of the regular typefaces used in the REVIEW, see architects' names p. 95 this month.



choosing it well enough. Very probably it was used earlier by sign painters and other letter makers. 2, *Coach and Horses*, Hill Street, Berkeley Square, strikes one as an early example.‡ It is delightful in its freedom and vigour, but experimental and pleasantly inconsistent.

Our series of reproductions gives a fairly comprehensive idea of how this letter has been used hitherto. It is not a particularly wide or impressive range, but one that could surely be enlarged and improved with advantage. It is at its most

friendly and human than sans would imply. The heavy letter is well designed particularly C. Used in the grand manner Ionic is less successful on the facade of Barry's Royal College of Surgeons, 4. This must have been the latest thing in lettering when it was put up in 1835–40, but it shows the rather unhappy transition from the traditional seventeenth and eighteenth century letter forms (v. the fine G) to the dreary letter of the later nineteenth century, from which one is apt to forget that Trajan rescued us. (v. P & R



serious on Cheltenham Police Station, 3, where it looks both well and suitable—a police station is not after all a temple, museum or government office to call for Roman, and yet, in England at least, more

‡ The name of this pub can be traced back to 1839, probably 1836, which is therefore very likely to be the date of the lettering: I am indebted to Messrs. Charrington for this information.

square-bowled and ugly). One sees the same sort of thing on St. George's Hall, Liverpool. A much more successful example, perhaps, a decade later, is the lettering of George Over Ltd., stationers and map depot, Rugby, 5, 7. This, too, is very nearly related to a straightforward Roman, this time to the fat-faced Regency



variety. Perhaps it is too near to serve as a type of Ionic, despite its happy conjunction with Ionic capitals. Its serifs are perhaps too pointed and its shading too exaggerated and its mood is perhaps too confident. But it is, at this end of the



gambit, an example of a charming letter really used architecturally. The wide spacing of the units is counterbalanced by the bold width of the verticals (contrast with 8, 9 and 10), while the fat rounds and curves of the letters enliven and enhance the austere lines of the entablature below.

At the other end of its gambit, on the most modest scale Ionic is entirely successful. The type-founders invented, or more probably copied from the title-page engravers, a very pretty and elegant outline letter, 6, 1833, very small and fine, an idea that might well be reused. And I am constantly charmed by pleasing

N



arrangements of those white letters that one can buy ready-made at Woolworth, which people put up to warn you of their



dogs, etc., or not to park your car; well spaced and neatly arranged, they look nicer and more appropriate than pro-

strikes one as all too thin. South Africa, 11, in Piccadilly is more successful, but I wonder if those very long serifs, leaving the tiny gaps in U and H, really have purpose or beauty on this scale? And of really bad, dreary, prosaic, and dowdy Ionic of course one could find very many examples. It suffers I suppose from the fact that as yet no classic norm has been designed. Some Victorian types are good, but none first rate, and they tend to book rather than display designs. Perhaps



fessionally painted notices. An example in metal, 9, the Triangle, Malmesbury, shows how well Ionics fit into a simple decorative border—how much better than any Egyptian or Roman letters that one can imagine.

But in every use there is always the question of spacing, and of design; the larger the letter, the more difficult and conspicuous. The New Inn, Westminster Bridge Road, 8, for instance, is quite a nice letter spaced too wide. The Ionic lettering at Waterloo Air Terminal, 10,

before it can be really successfully used we need a first-class contemporary design really thought out, balanced, studied—on



which to learn to play variations. I wonder whether, for such a compromise, such an essential, modest letter from the norm should not be slightly compressed? Finally I reproduce 12 (at Devizes), not because I think it good, it is coarse and ugly, but because I think it gives some idea of possibilities in Ionic patterning.

Nicolette Gray



ART IN USE

PLAY SCULPTURE

The respectful attitude of the average child toward public monuments has always been tempered with a practical awareness of their potentialities as the framework of athletic feats, 1, or as points of vantage in a crowd, 2. Now that the attitude of respect has been institutionalized and



enforced by public opinion, the police, iron railings and other arms of democratic administration, the other, ambivalent half of the child's attitude has had to be institutionalized by the provision of climbing frames, jungle gyms, and ultimately by the creation of sculpture which is designed specifically for playing in, 3, and might in time have a profound influence on the general attitude of the public to monuments and works of art. The idea of a work of art which is deliberately placed on the ground for juvenile accessibility, not raised on a pedestal into the stratosphere of platonic idealism, is one which has become increasingly current, but in England, at least, still awaits realization. In France there is play sculpture on the roof of the *Unité* at Marseilles, while in Sweden, where the idea first originated in the mind of the sculptor Egon Moller-Nielsen, both realization and further development of the concept are proceeding.

The proposition that modern sculpture must be physically, as well as visually, experienced is at least as old as the Bauhaus, but Nielsen is the first sculptor to try to make this experience an integral



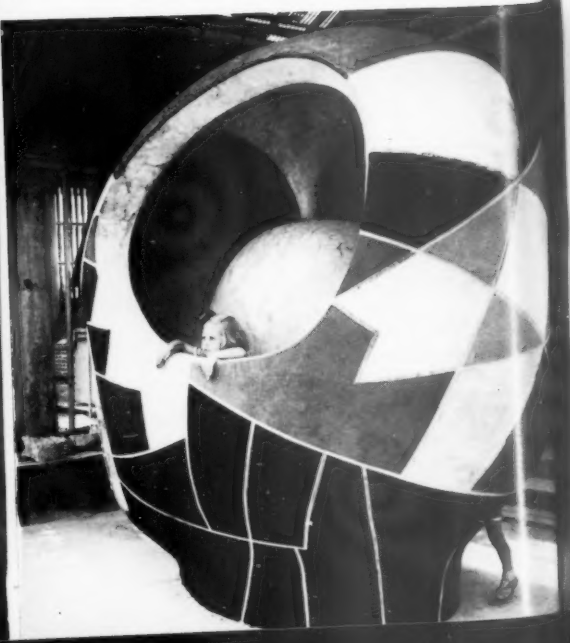
1 and 2, in the Piazza della Signoria, Florence. 3, play sculpture by Egon Moller-Nielsen, further illustrated on the following pages.





5
6, 7

art in use: play sculpture



part of the fantasy world of childhood, and introduce direct tactile knowledge of texture, form and interior space into the imaginative realities of the growing mind. His Stockholm *machine à jouer* is already well known, 4, but the more recent



Gothenburg sculpture of 1952, 5, represents a considerable advance, both in self-confidence and quality as a piece of sculpture, and as a complex of interconnected interior volumes. Purely as a work of art it may be best appreciated in a photograph of the full size model, 7, while as imaginative play space its volumes, size and capacity, are best seen in 6.

But the quality of this sculpture as works of art must be borne in mind, otherwise one would tend to regard him as a latter-day Toymaker of Nuremburg, which would be unfair to his more recent projects. He is, rather, a serious sculptor whose work gains dignity, and whose development gains a sense of positive direction, from the human function which his sculptures must directly serve. His projected seats for an Underground railway station in Stockholm are primarily sculptures, 8, but they have to answer a stringent functional programme; they must be usable as seats, they must not obstruct the free flow of passengers when the

concourse is crowded, and they must visually galvanize the interior space of the low-ceilinged concourse when it is empty.

To effect this last function the two seats are designed to stand in an active visual relationship to one another, to create a kind of sculptural field of force, and mark a step away from the conception of the isolated sculptural object, and a step towards the concept of *terrain sculpture* which emerges in his most recent work, a playground-monument to The Unknown Political Prisoner. The concept is related to those sculptured 'games-boards' of Alberto Giacometti, but it is here enlarged to form a habitable landscape functioning physically as a multi-purpose playground, and symbolically as a zone



where relaxation and recreation take place in a peaceful atmosphere which is itself a memorial to those prisoners whose sacrifices made it possible.

Topographically it is laid out as a system of answering hills and hollows, 9, surrounded by grass-covered slopes, to give a sense of enclosed security and to provide space for sitting out. The forms of the terrain are the given, and permanent, features of the scheme, the various play uses are transient, depending on season

and circumstance. Some permanent machines are provided, a wind-mobile, a water-mobile, and a jumping sheet, but otherwise the slopes and peaks could be used for winter sports, or dancing, or amphitheatre dramatic performances, or any other spontaneous or organized activity that an occasion could require. No one knows at present whether this scheme, or anything like it, will ever be realized, but the significance of its contribution cannot be ignored, for it restores to the repertoire of modern design the idea of a landscape which is both a work of art (here sculptural rather than picturesque) and a place of human recreation. P.J.B.

BOOKS

DANISH HOUSING

HOUSING IN DENMARK SINCE 1930. By Esbjørn Hviert. Published by The Architectural Press, London, and Jul. Gjellerups Forlag, Copenhagen. 21s. ENFAMILIEHUSET AF IDAG. By Svend Erik Møller, published by Hest and Søn, Forlag.

No country in Europe, perhaps none in the world, produces such a consistently high standard of housing as Denmark.

If it were the most imaginative flat blocks we wished to see, it is likely we would visit Sweden: or if the most audacious, South America or Marseilles. The most lush individual houses can be found in North America, and the most practical in Holland. Switzerland will show us the most sensitive handling of hilly sites, and Britain the most complete integration of the house with the town as a whole.

When it comes to considering all the factors that go to make a satisfactory home, Denmark has it every time. It follows, therefore, that almost any book on Danish housing is of interest, and when it is a very good book indeed like 'Housing in Denmark,' it is invaluable. It is that, not just because it is well written and well translated, and it has an abundance of pictures and diagrams, but rather because it gives a balanced and reasonably complete picture of the whole problem, from such social aspects as the historical background and its development into a housing policy, through the economical technical and design problems, to the most recent reconstruction schemes at Ronne and Nexø.



This survey gives us the secrets of Danish success. For instance, to take but one of the many problems discussed: their method of providing dwellings through Building Associations. These, during the last twenty years, have had a steady increase in responsibility until they now provide 47 per cent of the country's dwellings as against only 6 per cent by the State and Municipality. (Private builders erect the balance, 26 per cent with some State subsidy and 11 per cent without.) We learn from Hiort that there are three categories of housing societies: profit sharing, organized on a co-operative basis for their own members; non-profit making, who build and administer in close co-operation with local authorities, for the general public; and stock companies with limited profits who likewise build for the general public. All three are sanctioned by the Ministry of Housing who have an overriding control over finance, accommodation and quality of structure.

It is thus possible for the Danes to have the drive and initiative of the individual functioning within a broad framework of national policy. They are spared the dreary repetition of housing types copied from current housing manuals that characterizes so much of our State aided housing; and they are spared the little commonplace and vulgar individual dwellings that are going up now that the speculative builder has to some extent been 'set free.'

When it comes to the design and the construction of dwellings, the Danes again have a reasonable and sensible approach. The craftsmen themselves have been trained under their ancient tradition in which they are apprenticed to a master for four or five years who, apart from giving them individual tuition, sends them at his own expense to the Technical Evening Schools—schools which have been initiated and which are run by the Masters themselves. Contracts are let direct with the Master craftsmen in their own names which leads to personal pride in the work; and both the designer and the builders accept that it is in the nation's interest to use their three basic materials—clay tiles, bricks and cement. This means that when an architect designs say a brick building, he is fully alive to its formal potentialities, and when it is built, all the qualities of the bond and of the material itself will be brought out by the craftsmen.

'Housing in Denmark' gives the complete picture over the last twenty years. Another new book 'Enfamiliehuset af idag' by Svend Erik Møller deals exclusively with the 'single family' house. This is a picture book, intended for the general public, of some thirty odd medium sized detached houses. The main body of the book consists of an analysis of each example by photos, drawings (giving the house in plan section and elevation) and a brief description, which includes the cost. Although the book is in Danish (there is a translation of Danish terms and a brief explanatory note in English at the back of the book), it should be of interest to British architects because the photographs and the drawings, all of which are exceptionally clear and to the same technique, give a really adequate explanation of each design.

The author says that the examples have not been chosen as the expression of any special architectural concept, but to give a cross section of the best in modern Danish building. This they do: but also included are some with an obvious foreign influence such as Jørn Utzon's at Hellebæk (Frank Lloyd Wright), Jørgen Juul-Møller at Fredskovvej (Le Corbusier), and Finn Juhl at Naksøvfjord (which looks very like an English prefabricated school). There are also two very sophisticated and quite delightful houses by Arne Jacobsen.

Frederick Gibbard

Shorter Notices

MICHELANGELO MERISI DA CARAVAGGIO: HIS LIFE, HIS LEGEND, HIS WORKS. By Roger Hinks. Faber, London, 1953. 50s.

Caravaggio was the greatest Italian painter of his century and the most influential of all painters of his century. Without him no Rubens, no Rembrandt, no Velasquez, no Poussin. Mr. Hinks does not allow himself sufficient freedom to say such things. That is a pity, because his is the first full-dress Caravaggio biography in English, and he is a brilliant writer, both trenchant and colloquial. His descriptions of pictures are never tiring, scholarship is kept away in a full catalogue, and plenty of illustrations, including ingeniously chosen details, reinforce his points. There are three Caravaggios, he says, the painter of still-life and figures treated as still-life, then the painter of the Contarelli and Cerasi Chapels with their dramatic scenes frozen in mid-action, and finally the painter of 1607-10 who reduces the size of human beings and envelops them in darkness. The last works, true *Spätwerke*, though done by a man of only 35, are Mr. Hinks's favourites. This is a new line to take, as against that of the writers of the twenties and thirties to whom Caravaggio was primarily the *ultimo classico*. The ruthless compactness of his designs, comparable to those of no other painter but Giotto, is not quite done justice to by Mr. Hinks, and it can only be his distrust of close analyses of composition that makes it possible for him to accept as originals such unstable pictures as the Judith and the Isaac. N.P.

AMERICAN GEORGIAN ARCHITECTURE. By H. D. Eberlein and C. V. D. Hubbard. Pleiades Books. 42s.

American publishers have produced innumerable excellent books on their eighteenth century architecture and many of them have been reviewed in THE ARCHITECTURAL REVIEW. The chief advantage of the present book is that it is published in this country and consequently easily available. It is not a scholarly book, but it has over a hundred illustrations of buildings between 1682 and the first years of the nineteenth century, and they are well chosen and well reproduced. The text is lacking in a clear point of view on the significance of the styles treated ('The Graeco-Roman Regency or "Federal" manner was fundamentally Adam Neo-Classicism reduced to its lowest terms and streamlined, plus a moderate admixture of purely Greek derivation,' page 48) and tends to develop into a catalogue. To say of Latrobe's Pumping Station, 'illustrations speak for themselves,' without a word of comment on its Doric and Ledouxish qualities, is lamentable. There is

no index, and the dates of birth and death of such architects as Latrobe and Bulfinch are not given. C.D.

TALIESIN DRAWINGS. Recent Architecture of Frank Lloyd Wright, selected from his drawings. Comments by Edgar Kaufmann, Jr. Wittenborn Schultz Inc., New York.

The last book devoted entirely to drawings of Wright's work was published in Germany in 1911, in a luxurious volume from Wasmuth. The drawings were specially done for the occasion by Wright himself. The present work consists of drawings prepared by the Taliesin Fellowship, and are what would be referred to in England as sketch plans. The 1911 volume had a profound influence on European architects, and was probably the first major architectural influence from the New World on the Old. It would be unfair to compare the present volume with it, for it is on a much more modest scale, covering nineteen designs and accompanying an agreeably objective text by Edgar Kaufmann, Jr. They well illustrate Wright's constant search for architectural forms and values appropriate for the time, place and individuals who will live in them. Several are of modest dwellings and show that Wright has remained as interested in the smaller project as in the greater. The drawing of the House for Miss Pauson by Wright's own hand illustrates his capacity at the age of 71 to draw with an enviable vigour. The publishers announce that if the present volume is well received, a further series showing drawings for non-domestic buildings will be published. R.T.

OLD ENGLISH BAROMETERS. By G. H. and E. F. Bell. The Wykeham Press. 47s. 6d.

Owing to the radio weather forecasts the barometer, hanging hard by the hall clock, is tapped far less than formerly. Its existence as part of the usual household-gear is threatened, but barometers will always be sought after by collectors. The subject of their creation, which makes a little chapter in the history of science, is fascinating. Hitherto no one has written a book on them.

Barometers, unlike clocks, have no complicated mechanism; for the most part the barometer consists of a tube and a cistern filled with mercury. The clock with its ticking, striking and sometimes its chiming and music is a live thing when compared to a barometer. Therefore the interest of the collector of barometers is mainly confined to their cases and dials. As the authors explain there are five main types of barometers: cistern, siphon, portable, diagonal and wheel, each of which varies considerably in the design of its case. Like clock-cases, the cases of barometers were inspired by the current designs in cabinet-work.

Rivalry among barometer-makers was as strong as among clock-makers. John Patrick writes of his competitor Gustav Parker: '... he has missed the wind and weather more days than he has hit right ... if he predict a day to be only cloudy, whether they be not ill-natured clouds that will wet a traveller through a good thick doublet.'

It is a pity that the illustrations are so small and indistinct, and that each barometer illustrated lacks detail photographs of the dial and such parts of the case which display fine craftsmanship. R. W. Symonds

Books Received

MARKET FACTS. Prepared by the Merchandise Mart, Chicago. DESIGNS TO MUSIC. By Margit Varro. Apperance House, Chicago. \$3.50. DORSET Vol. I. Her Majesty's Stationery Office. £3 3s. 0d. EARLY ENGLISH WATERCOLOURS. By Iolo A. Williams. The Connoisseur. £5 5s. 0d. ARCHITECTURAL PRINCIPLES IN THE AGE OF HUMANISM. By Rudolf Wittkower. Alsc Tiranti. 25s.

SKILL

A MONTHLY REVIEW

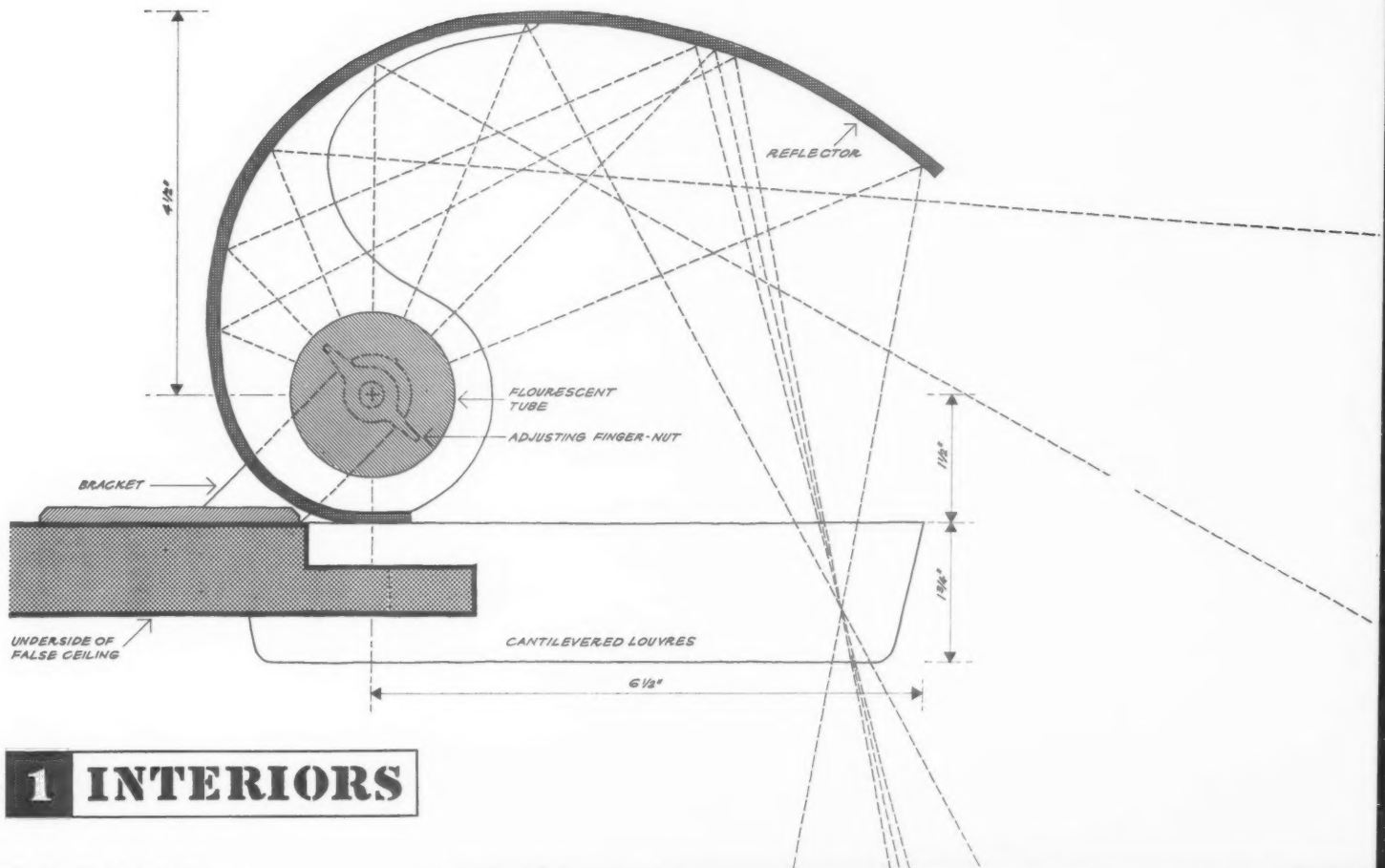
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors

2 design review

3 techniques

4 the industry



1 INTERIORS

Marlborough Art Gallery:

Designer: Michael Rachlis

This use of cantilevered louvres protects the spectator from reflector dazzle which is the usual result of attempting to light the picture band accurately. In a gallery where the pictures are rehung for every exhibition, they cannot be lit separately, and the purpose of this louvre system is to master the usual difficulties which arise from conflict between the two functions of the continuous fluorescent tube reflectors—reflecting and screening. The problem is how to control the direction of light and at the same time cut out all troublesome glare from the reflectors. The strongest light should cover the belt of the wall where the pictures are placed, and under no circumstances should the light be focused over the picture on the wall. How-

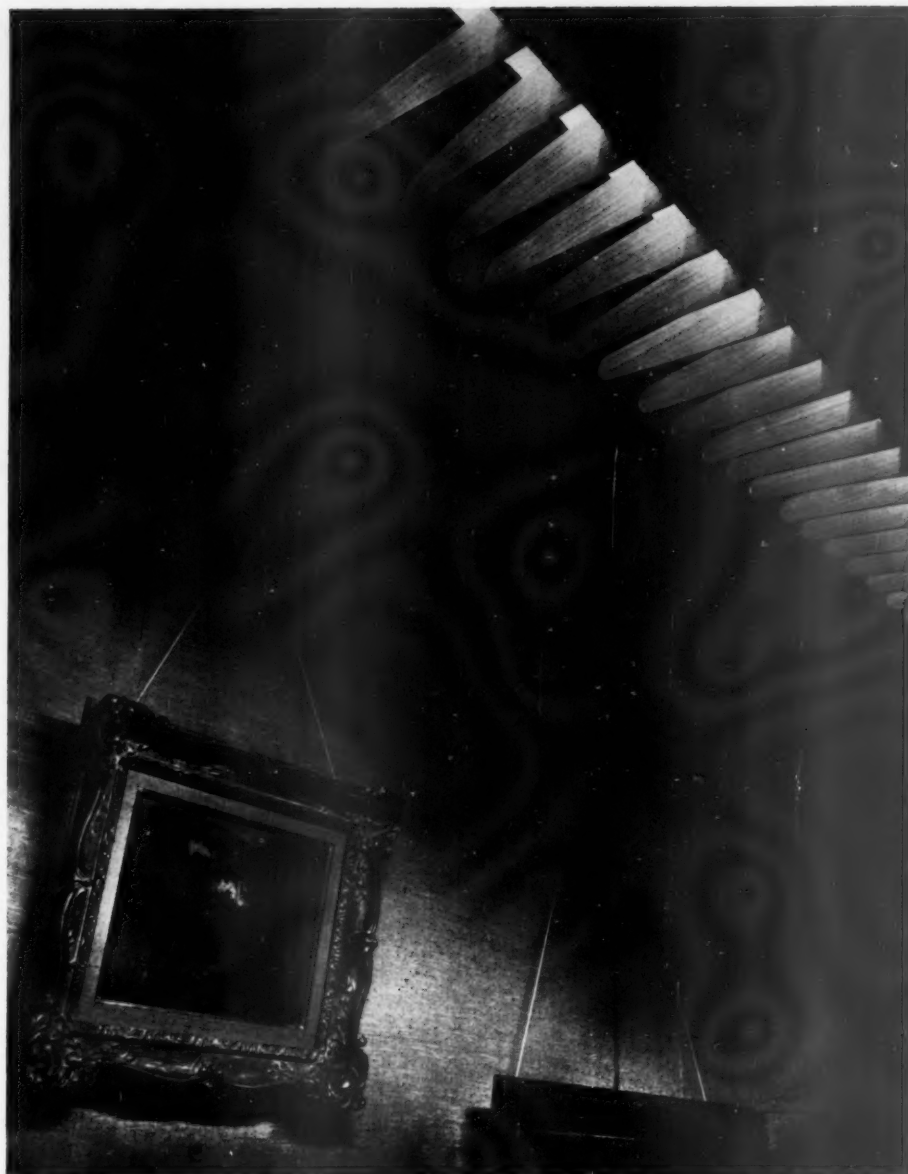
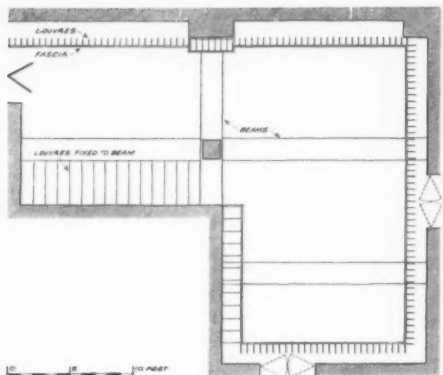


Above, diagram of the optical principle of the reflector and louvres, and below, general view of the gallery.

ever, one or other of these drawbacks is endemic in a normal reflector, for if it is tilted to light the picture belt direct light from the inner surface of the reflector is visible to the corner of the spectator's eye, and causes glare. If the reflector is tilted the glare is avoided, but the strongest light comes over the picture, not on it.

This system of cantilevered louvres screens the reflector from the eyes of the visitor, so that the placing of tube and reflector can be arranged with only the adequate lighting of the picture in mind. The construction of the cantilevered louvres themselves is very simple. They can be sprayed aluminium, building board or even plywood fixed by one end into the slots of a beading at the bottom of a fascia or a suspended plate. The illustrations show another type where the louvres are running from an existing beam or false ceiling to the wall.

Right, the lighting in use, showing the accurate lighting of the picture band, and below, plan showing typical arrangement of louvres.



Piccadilly Gallery:

Architect: Robert Banks

In West End galleries the problem of overcrowding is often acute, and this is an attempt to minimize it by careful selection of background colours and texture. The Piccadilly Gallery, like other shops in the Piccadilly Arcade, is very small indeed; the exhibition room is only 11 feet by 19 feet. A wall mirror placed well above eye level enables the apparent length to be doubled, but the task of creating an illusion of space largely falls on the wall surfaces, which must also provide a suitable setting for pictures of widely differing styles.

Other points which must be considered are that the surface must not be reflected in the pictures hung on the opposite wall, and that the colour must both isolate and complement each picture. All these factors



Looking towards the mirror at the end of the gallery, with the felt-covered wall on the left.

led the architect to choose dark matt surfaces; one wall is covered with 6 feet wide wine-coloured felt, with the exposed wall above and below painted dark grey, and the other is painted dark green. The strongly contrasting colours make it possible to mount pictures of different styles on opposing walls without incongruity.

Screens covered with pegboard, for ease of moving drawings, may be moved to change the spaces in the gallery, both in the form of bays and wall surface behind. Light fittings are all adjustable, and on one rack slide along a longitudinal rod as well as being on universal mountings.

In the basement, the problem of storing pictures whilst at the same time having them easily visible has been tackled by mounting them on pegboard screens, which slide across each other in tracks like cupboard doors.

The apparent increase in size obtained by wall mirror; the join of mirror and wall can just be seen between the second and third pictures on the right hand wall.



2 DESIGN REVIEW

Cabinet Ironmongery

by Frank Austin

Our cabinet ironmongery comes from two distinguishable sources: from the great period of English cabinet making and from the early part of this century when the making of really cheap furniture began.

With notable exceptions, the industry now seems to concern itself little with aesthetic matters. It is slow to introduce new designs and slower in

withdrawing old ones. New items are new mechanical solutions rather than new designs. Mechanically the industry is alive, but in design cabinet lags behind architectural ironmongery. The improvement in quality and design of furniture since the war and the signs of a better informed public taste suggests that it may have to give more attention to these aspects of the work. Some firms are doing this—but in choosing ironmongery for furniture and fittings designed for modern buildings the architect must use one of a few well-known

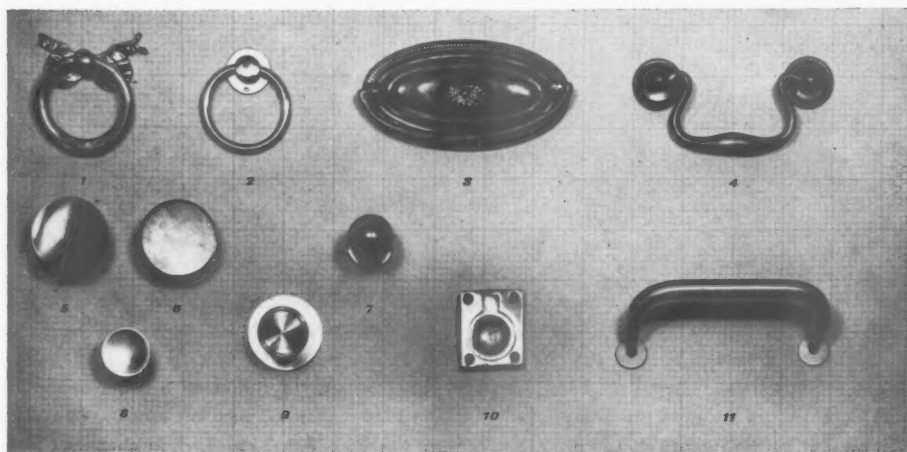
designs or must spend a great deal of time searching through the bewildering stocks of the big factors for the small number of usable items.*

handles

An example of the survival of old forms and methods of manufacture is the French type gilt finished ring handle, 1, by Messrs. Beardmore catalogue no. 1845, it has a certain elegance and quality not often found in cabinet ironmongery today. A modern equivalent, 2, by the same firm is again of relatively high quality, catalogue no. 8184. The ring, however, is not continuous and trouble may result if this handle is twisted under the impression that it operates a catch. It is in satin brass.

A common type for use on reproduction furniture is Oakden's no. C2438, 3, in antique brass. Another type of bow handle is Oakden's C2155, 4, which is a simple eighteenth century pattern. On the Continent handles of this type have been designed in a manner suitable for use on modern furniture, and it seems surprising that this has not been done over here. Some designers have avoided this problem by taking handles like 3 and using them without a back plate.

* For list of manufacturers see page 136.



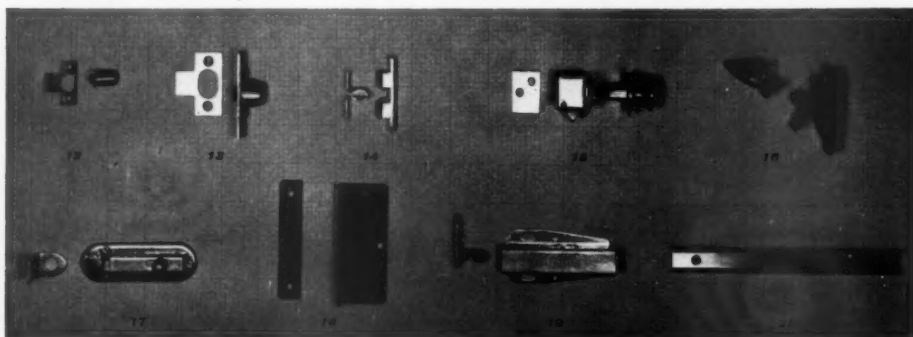
All the fittings illustrated were photographed against graph paper on which the thick lines are 1 inch squares.

Contemporary patterns are found more readily in simple knobs used for drawers or cupboards. This is partly due, perhaps, to their having been so generally used on Utility furniture. Beardmore's 7940, 9, in satin brass finish is a case in point.

The same firm make a knob, of eloxiert metal* 6, which has the appearance of matt silver and has no plating to wear off. It is fairly neat in appearance, but the section is really a clumsy one.

Among the best of the turned knobs are those made by Dryad and distributed by A. J. Binns, examples are, 7, no. H78; 8, no. H88; 5, no. H89. All available in polished or satin brass, polished or satin chromium, BMA and plastic covered. Another item in which this firm is extremely good is the H77 D-handle, 11, also available in all the finishes mentioned. The traditional type of sunk ring handle, 10, is still a useful one, and the example shown is Beardmore's no. 3806 BCB in brass, sizes 1½ inch and 1¼ inch.

* A new alloy made in Germany.

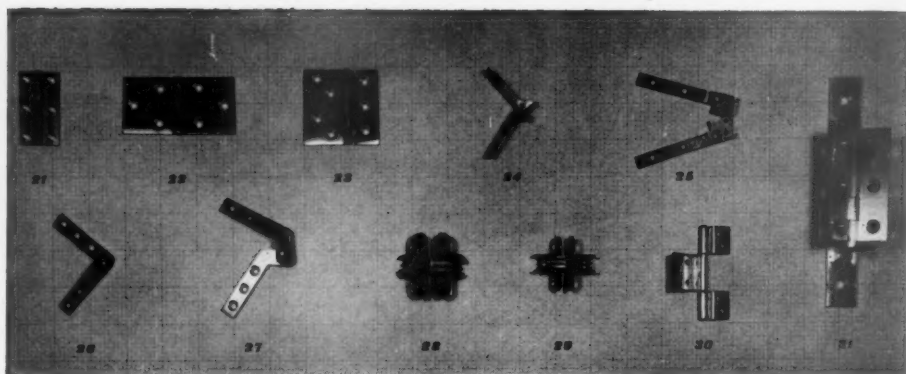


bolts and catches

Cupboard bolts and catches extend from the simple ball or bullet to more complicated types. 12, a brass ball catch, no. E220, and 13, a brass Bales catch, no. E222, are both by Dryad. The latter having a positive fixing does not tend to become loose through timber shrinkage. Other more positive catches are the double ball catch, no. E226, 14, in brass by Dryad, and the press cup catch, 15, no. E227, available in polished or satin chromium plate, brass, and BMA, also by Dryad. A locating catch, 16, available in bronze finish only by Nico, no. 3550, is very useful in controlling winding doors, and has an ingenious release. The Wilkes Berger catch, no. 457, 17, in satin brass finish, is perhaps even more positive. 18 is a magnetic catch by Wilkes Berger, no. 1950, which is an unusual type and has the obvious advantage of being silent; the finish is Florentine bronze on steel. A very useful cupboard bolt suitable for inset or surface fixing is the Universal Riegel extruded bolt, 20, from Beardmore's. An unusual latch is the 'Tutch Latch,' 19, by Linread Ltd., which is operated both for opening and closing by merely pressing against the surface of the door.

hinges

There is an enormous selection of hinges. Steel hinges are undoubtedly the strongest, but for practical purposes a well-made brass hinge is usually strong enough. The better qualities are solid drawn, extruded or cast. The simplest types



are butt hinges such as Oakden's C4708, 21, and backflap hinges, 22, such as Oakden's C4906 cast brass hinges. The difference between the two types being that the backflap has larger butts. There are special types of backflap hinge such as 23, Oakden's C4761, a wardrobe hinge with one large butt for fixing to the stile and a small one for the edge of the door. Then there are card table

when closed, allow a slightly inset door to swing round the stile or end on which the door is hung. Important hinges which are not well represented in this country are the cranked hinge for use on rebated doors, 30, Wilkes Berger no. 210L. Similar hinges in brass are very difficult to find and are a definite need.

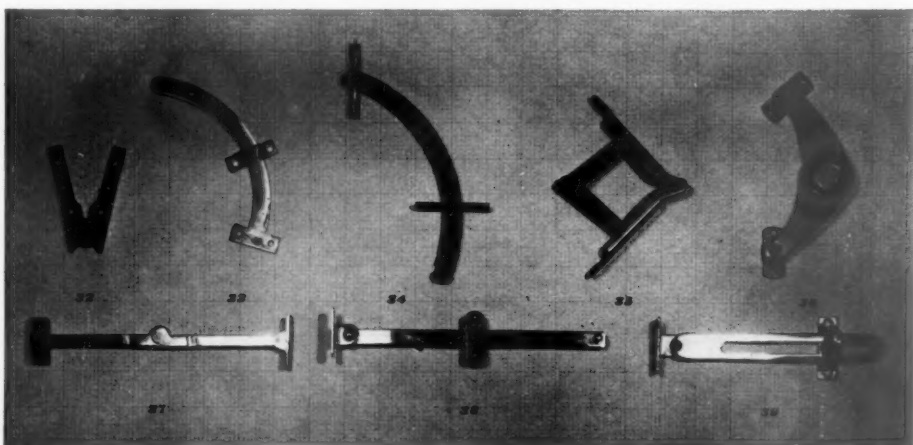
A hinge for a special purpose is 31, the frame butt hinge, Oakden's C4870, which allows two doors to open in front of a single stile or middle end. Very useful for museum or showcase work where continuous ranges of doors are concerned.

stays

The quadrant or dolphin hinge, 32, functions as both hinge and stay for fall fronts. This is an eighteenth century type as one may guess from its name: Beardmore's no. 2951, in cast brass.

The more common types of stay are the quadrant, the elbow and the wardrobe stay. Good examples of these are 33, Oakden's C5400 cast brass stays, 4 inch, 6 inch, 8 inch and 10 inch, made handed, or a similar stay designed so that the quadrant is concealed behind a stile or in a mortice, 34, Oakden's C5404. Another type of stay for a fall front is Wilkes Berger's 444, 35. This is finished in a bronze colour and is a useful small stay, but lacks the quality of the cast brass.

A good elbow or joint stay in brass is 37, no. C5380, sizes 3½ inch, 4 inch, 5 inch and 6 inch, by Oakden's.



limited numbers are available in this country owing to dollar restrictions. We show both the original Soss, 28, Beardmore's no. 203, 1½ inch, and a continental hinge of the same type, 29, Beardmore's no. 245½ (sizes 1 inch, 1½ inch, 1¾ inch, 2½ inch). These hinges, besides being invisible

The standard wardrobe stay is represented by Oakden's no. C5427 B, 8 inch long, 39, and a new friction stay, running between two pieces of hard rubber and therefore silent, is 38, Wilkes Berger's no. 304, 7 inch long, in chromium plate. A type of stay which has become important in

recent years is the friction gramophone stay, which will support a raised lid in any position 36, Wilkes Berger's no. 356 bronze stay is a useful example.

sliding gear

Among present day gear for small sliding doors the Chasmoood fibre track and runners, 40, are perhaps the most useful for small timber or timber framed doors. The larger size is adequate for quite heavy showcase doors. For very heavy doors Oakden's C1835 ball-bearing runners and track, 41, are a possibility, but noisy. A useful track for sliding glass doors, 42, is the Chasmoood double track, and this may be used with the special lock shown in 52.

castors

Traditional castors such as 43, Beardmore's screw fixing castor, no. 3224½, and 44, Beardmore's no. 907 round socket type castor for turned legs, are both good of their kind and more silent in action than the modern push-in castor, which always seems to chatter in use. An unusual type of castor is the Shepherd castor, 45, which is extremely free-running.

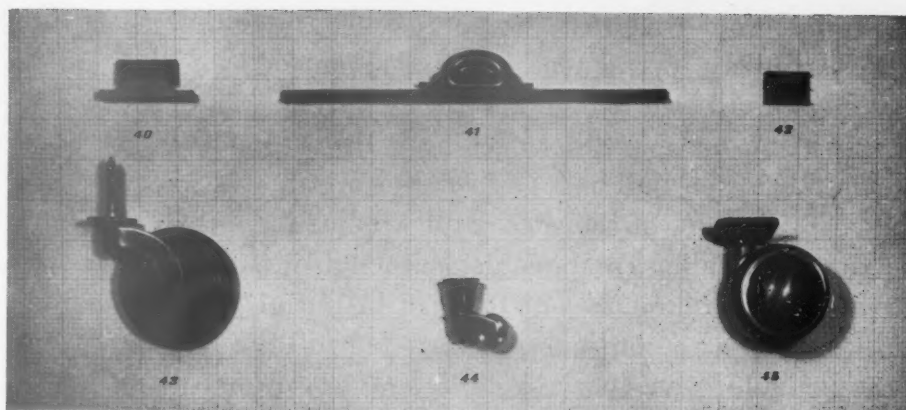
locks

Locks are produced in bewildering numbers and types and there are no standard dimensions. It is worth remembering that a lock with a cast cap which is screwed into position can be more readily repaired if necessary, and is usually of good quality in other respects.

The most usual lock perhaps to the architect, a mortice lock, is not used with the same frequency in cabinet work, timber thickness being generally lighter and doors often lapped to prevent entry of dust and conceal fluctuations in the timber. 46 is made by Beardmore's, sizes 2 inch by 1 inch; 2½ inch by 1½ inch; 3 inch by 1½ inch; and is handed.

More common in cabinet work is the cut cupboard lock, 47, which is merely housed in the door and is seen from the back, by Beardmore's, sizes 2 inch by 1 inch, ½ inch to pin; 2½ inch by 1½ inch, ⅝ inch to pin; 3 inch by 1½ inch, ¾ inch to pin (also ⅞ inch, 1 inch, 1½ inch, 1¾ inch, 1⅝ inch and 1⅞ inch to pin), and is handed.

Not so pleasant in view of the protruding lock



case, but most commonly used, is the straight cupboard lock, 48, which is double-handed, sizes 2 inch by 1 inch, 2½ inch by 1½ inch, 3 inch by 1½ inch.

Locks for drawers are called till locks, 49, by Beardmore's, sizes 1½ inch, ½ inch to pin; 2 inch, ⅝ inch to pin; 2½ inch, ¾ inch to pin; 2¾ inch with varying sizes to pin—¾ inch, ⅞ inch, 1 inch, 1⅝ inch, 1¾ inch and 1⅞ inch.

Most firms sell a number of good locks of the foregoing types: other useful locks for special purposes include a cut hook sliding door bolt such as that made by Beardmore's, 50, sizes 2½ inch and 3 inch, these are also available as mortice locks. A second type of sliding door lock fastens two doors, passing one another with a back-shoot lock, 51, sizes 2½ inch and 3 inch.

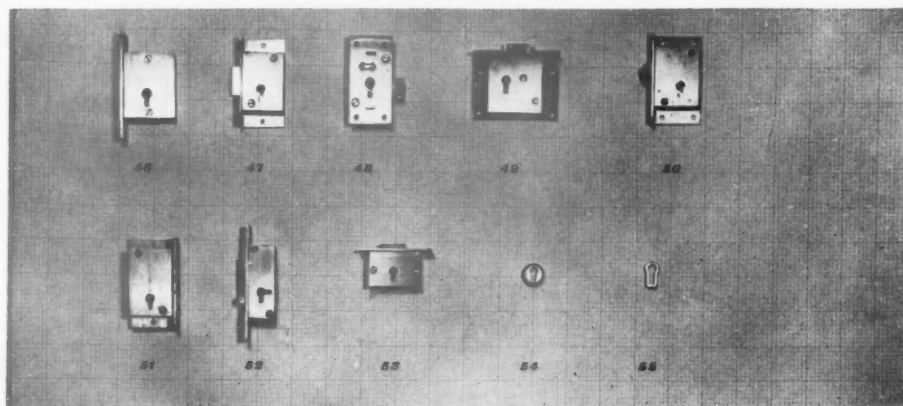
Yet another type of sliding door lock, 52, primarily for all glass sliding doors, locks both doors.

Lastly, 53 is a piano lock for any sort of flap or lid closing over a box-like structure, size 2 inch only.

escutcheons

Although there are plenty of escutcheons of antique pattern, those suitable for use on present day furniture or fittings are for practical purposes the nozzle type, 54, such as Oakden's No. 1964 in cast brass, sizes ⅝ inch, ¾ inch, ⅞ inch and 1 inch diameter, and the thread type, which is also by Oakden's, C2042, 55, sizes ½ inch, ⅝ inch, ¾ inch, ⅞ inch, 1 inch and 1½ inch, measured outside, also in brass.

From these examples, useful though they are, it is only possible to guess the number and variety of fittings available, but the quality lies in the old-fashioned types. It is difficult to believe that there is no demand for quality as well as ingenuity in new designs.



3 TECHNIQUES

ROOF DECKING

by John Stillman and
John Eastwick-Field

Roof deckings are now well established in the vocabulary of present-day building materials. They have emerged in the last 20 years as a whole new class of components, not because architects have demanded them, but because they fill a particular need in building at a low price, and their development cannot be resisted. Nobody can say what their life will be, but it is clear that, whilst they have more than 'temporary' life, most felt-covered roof deckings cannot compare in permanence with the

traditional roof coverings. Some may consider that their use today on many 'permanent' buildings such as schools is misguided and will lead to high maintenance and replacement costs. It is evident, however, that decking is the natural roofing type for prefabricated building and, in the event, it affords one of the best examples of the successful application of factory production to building components. Although in spite of this and of the many arguments put forward in recent years in favour of dimensional co-ordination, very few of the new types of decking have been specially designed to one or other of the modular dimensions advocated.

For the purposes of this review the word 'decking' means any proprietary light-weight panel designed to span about 4 to 12 feet between supports in a roof and to carry a waterproof finish. In our minds it comprises panels made of pressed metal, wood wool, strawboard, asbestos and built up timber. The panels are prefabricated and are erected dry.

Some manufacturers market their decking as part of their own patent system of roofing, which includes the roof covering and often a heat insulating material: others supply the panels only, to which the roof covering has to be added. They are designed for use on flat and sloping roofs, where they provide a rigid base for the covering and are strong enough to satisfy the Code of Functional Requirements, Chapter V, Loading*.

The traditional flat roof consisted of sheet lead, zinc or copper on timber boarding. These roofs were expensive in both material and labour and for this and other reasons, not least the growth of a manner of architecture which demanded large areas of flat roofing, there was a need for quicker and more economical forms of roof construction. The early buildings in the modern movement were nearly all finished with reinforced concrete covered with asphalt, and, despite some early failures, this has remained a widely accepted form of roofing for many modern buildings, although the in-situ concrete roof has been largely superseded by precast concrete units. At the same time there has grown up a practice of using roof deckings supported on beams, and these, because of their light weight and ease of fixing, are particularly useful over roofs with wide spans, such as are found in industrial and school buildings. The fact that within the last year or two at least

ten new kinds of decking have been introduced on to the market may be an indication of their popularity.

They are nearly always waterproofed with built-up roofing felt, as distinct from other forms of covering, and the manufacturers of these felts have largely been responsible for encouraging this form of construction.

Asphalt may be used, unless the decking is part of one of the roofing systems which always employ roof felt, but asphalt is heavier and less flexible than felt, and unless the decking is particularly rigid, it may be liable to crack. Despite the differing and strongly held opinions as to the respective merits of these two roof coverings, built-up roof felt is used in increasing quantities, and combined with roof decking is eminently suitable for many modern types of building. For north light factory roofs, for instance, felt covered decking has longer life than most types of corrugated sheeting, does not require additional insulation, is sealed and dust proof, and though it is itself more expensive, needs fewer structural supports. Gutters and flashings are frequently formed out of the roof felt and this also is economical. An early example of this type of roof is the De Havilland Aircraft Factory at Hatfield, which was roofed in 1933 by Messrs. Ruberoid, the originators of roof decking in this country. More recent examples are the Brabazon Hangar by Eric Ross, the new steel strip mill, Port Talbot, by W. S. Atkins & Partners, and the Cranford Secondary Modern School, Middlesex, by Denis Clarke Hall.

permanence

We must not give the impression that deckings are not also used on buildings which by tradition would be considered monumental, as witness the recent re-roofing of the St. George's Hall, Liverpool. This

is an indication that deckings are considered to be reasonably durable. The manufacturers indicate a life of about 30 to 40 years, but this must depend on the proper upkeep of the waterproof covering and, when steel is used, on the maintenance of the underside.

The specialists who lay roof felts are prepared to guarantee built-up felt roofs of 3 layers for 20 years, and 2 layers for 10 years. Generally these roofs should not require any special maintenance such as top dressings or extra layers of felt, but, when the surface eventually gives way, the whole felt covering has to be replaced.

In considering the permanence of decking materials, one should note that 'wood wool building slabs,' and 'sheet iron or steel (whether galvanized or not) which is not painted or otherwise protected by a bituminous or other not less suitable coating,' may, under the provisions of section 53 of the Public Health Act, 1936, be deemed 'short-lived materials,' and therefore be the cause of the rejection of plans for permanent buildings.

regulations

In general built-up felt roof coverings may be objected to under building byelaws either because they may themselves be considered short-lived materials (Model Byelaws: paragraph 14) or because of the risk of fire (Model Byelaws: Clause 50). As far as the first of these is concerned, organic based felts are not acceptable unless they are used in roof coverings constructed in accordance with British Standard Code of Practice 144.101 (1952):

This prescribes for the prevention of fire:

(a) where a non-combustible base of concrete is used for the roof a bitumen felt covering with the following surfaces may be used:

- 1 Undressed top layer of self-finished roofing or mineralized roofing, i.e., other than saturated felt.
- 2 Bitumen dressing applied hot (30 lb. per 100 square feet.)
- 3 Bitumen dressing as 2 above with surfacing of grit.
- 4 Bituminous macadam. (Not less than $\frac{1}{2}$ inch thick.)
- 5 In-situ screeded finish, tile pattern. (Not less than 1 inch thick.)
- 6 Tile, asbestos tile, slate or slab finish (bedded in bitumen).

(b) where a combustible base such as timber is used, surface Nos. 3, 4, 5, and 6 only may be used.

As far as the second is concerned they may be objected to unless they are—

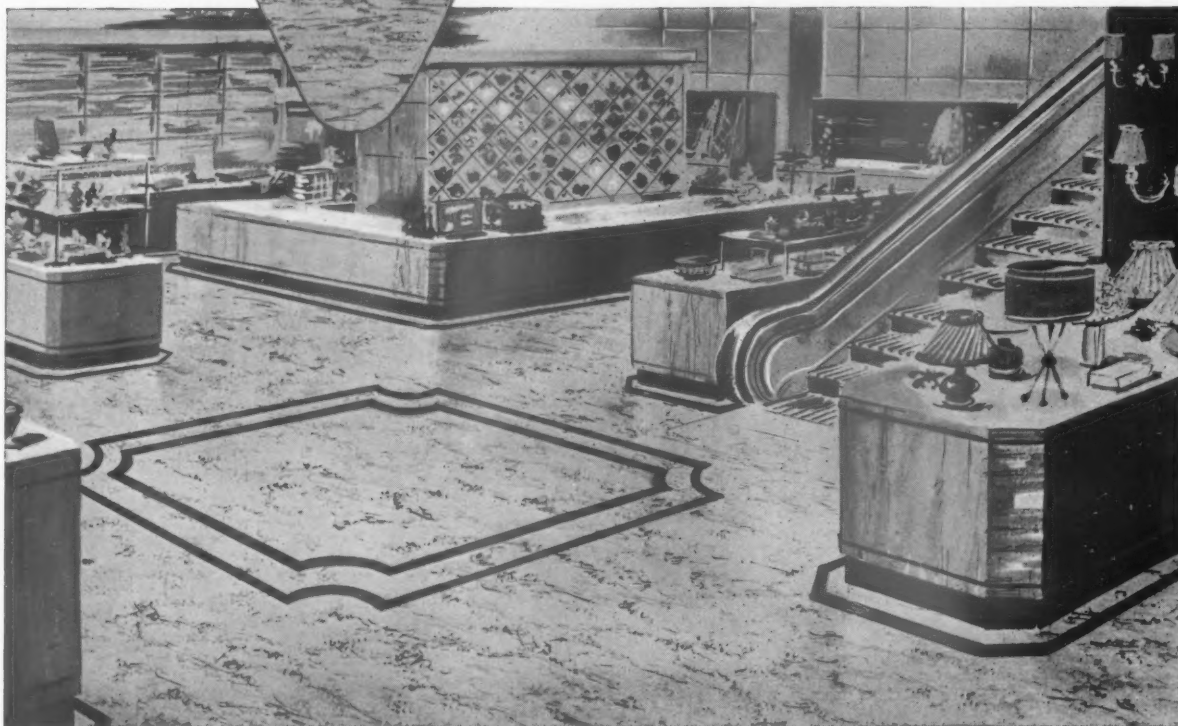
- 1 asbestos based roofing felt which conforms with British Standard 747.
- 2 organic based roofing felt laid directly on a base of incombustible material not less than one-half inch thick.
- 3 organic based roofing felt covered with incombustible material not less than one-half inch thick, or with bituminous macadam composed of fine gravel or stone chippings with no greater percentage of bituminous material than seven per cent.

* Superimposed loads for flat and low pitched roofs up to 10 degrees: 30 lb. square foot with minimum of 240 lb. per foot width uniformly distributed. Where walked on for maintenance only: 20 lb. square foot with minimum of 240 lb. per foot width as above.



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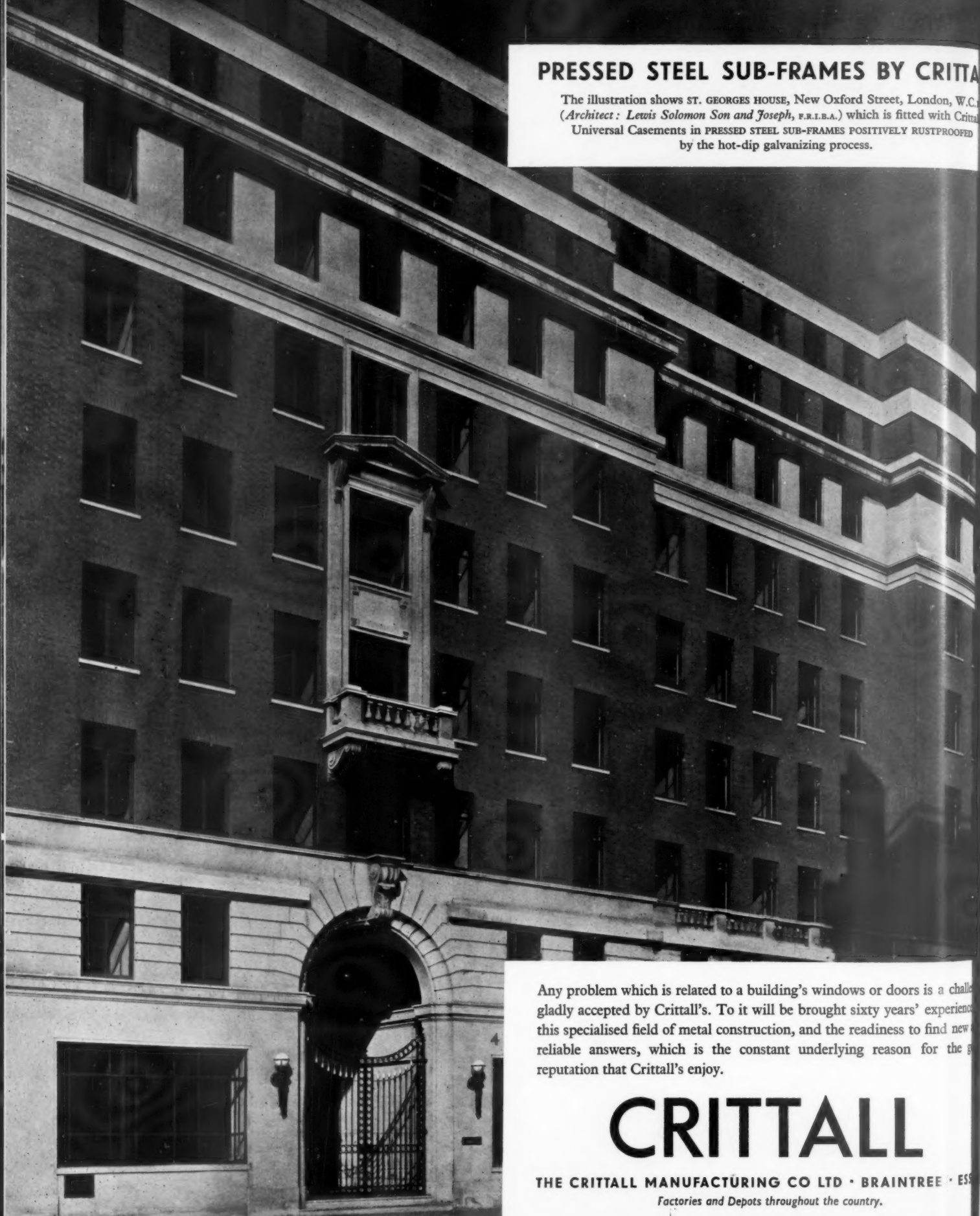
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PRESSED STEEL SUB-FRAMES BY CRITTALL

The illustration shows ST. GEORGES HOUSE, New Oxford Street, London, W.C.1
(Architect: *Lewis Solomon Son and Joseph, F.R.I.B.A.*) which is fitted with Crittall
Universal Casements in PRESSED STEEL SUB-FRAMES POSITIVELY RUSTPROOFED
by the hot-dip galvanizing process.

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Asphalt mastic, not less than $\frac{3}{4}$ inch thick, would be considered to be both permanent and to satisfy the requirements for fire proof construction.

In London the byelaws are not quite the same, and built-up roof felts are allowed on incombustible roof structures only, and it would be for the District Surveyor to decide whether any particular materials were to be considered incombustible. This is a matter which would have to be considered for each individual scheme, but in the event of doubt it is always possible that consent might be given by application to the LCC for a waiver. Reference should be made to Pt. XI of the LCC Byelaws, paragraph 11.01.

All these provisions are designed to avoid the spread of fire between buildings by sparks setting fire to the roof covering. In so far as fire from the inside is concerned, neither the Model, nor the LCC, byelaws make any provision for fire resistance or incombustibility of the roof structure, except in those instances where felts are used without the special precautions described above. By contrast, other elements of the building are required to satisfy certain gradings of resistance tested according to BS476 and set out in the byelaws.

If a decking also formed a ceiling, one would have not only to consider its appearance, but also its resistance to surface spread of flame, for which there are four classes defined in BS476. Building Bulletin No. 7 of the Ministry of Education relating to schools, for instance, limits the use of materials with rapid and medium flame spread, such as plywood, insulating board, hardboard and others, when untreated, to particular areas.

detailed design

The introduction of a new technique in building invariably has associated with it certain problems and limitations. Most deckings, for instance, need no screeds, and the installation of services, particularly electric conduit, is therefore difficult to conceal unless false ceilings are used. Where there is no screed, one is also faced with the problem of providing falls, and the structure has to be designed to cater for them. It is true that some felt roofing specialists have been prepared to lay their roofs without falls, but the general opinion seems now to be that a fall of 2 inches in 10 feet is desirable to avoid uneven drying out which causes stresses in the felt.

The panels are also made to a particular dimension and, if the full economy of the

chosen system is to be obtained, the roof must be set out accordingly, and the dimensions adhered to.

Particular care is needed in the design of the eaves. Since panels span between roof beams, it is easy enough to form even large over-hanging eaves when the beams can be cantilevered over the supporting columns, but, in the opposite direction, unless the decking itself can be cantilevered, cantilever brackets with a continuous supporting member at their ends would be required, together with short lengths of decking.

The edges of the units, on both their long and short lengths, which may be different, have to be covered with a fascia or finished in some other way, and the provision of a gutter has also to be thought about. Each manufacturer will have his own recommendations for methods of forming the eaves, and useful information is sometimes given in their catalogues. One cannot help noticing that more often than not the details shown are of roofs

with parapets, thus avoiding the difficulties of designing satisfactory eaves.

costs

Architects always find it difficult to compare costs of different materials, especially when dealing with untraditional ones. For one thing the cost depends upon the context in which they are used: a particularly light weight panel may be relatively expensive in itself, but if used on a hangar would allow a reduction in the cost of the structure which would probably more than compensate for the cost of the panel.

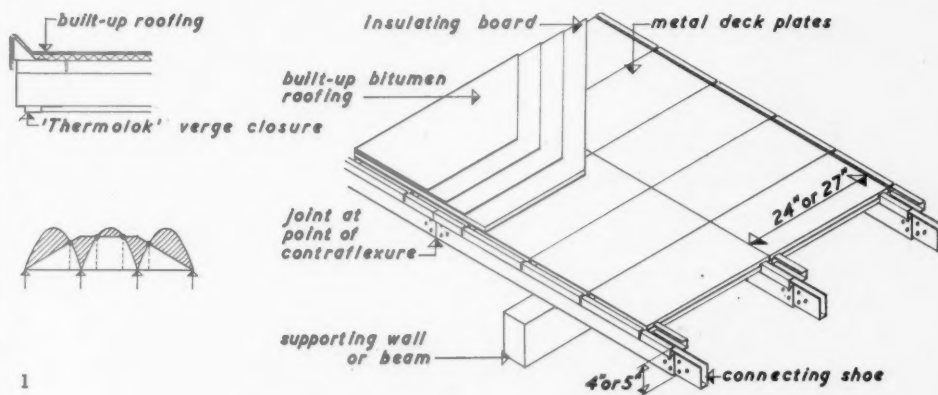
In our experience, the cost of roof deckings generally works out less than that of reinforced concrete roofs, and as a rough guide, deckings laid in reasonably large quantities in the London area, supplied and fixed, including insulating material, and three layers of bituminous roofing felt may be taken to cost between, say, 35s. and 45s. per square yard, though there are fairly wide variations in the costs of the different types available.

metal decking

Steel and aluminium are used in making metal deckings, most of which are produced by the manufacturers of roofing felts. Deckings of both of these materials span up to about 10 or 12 feet, but Messrs. D. Anderson & Son have recently

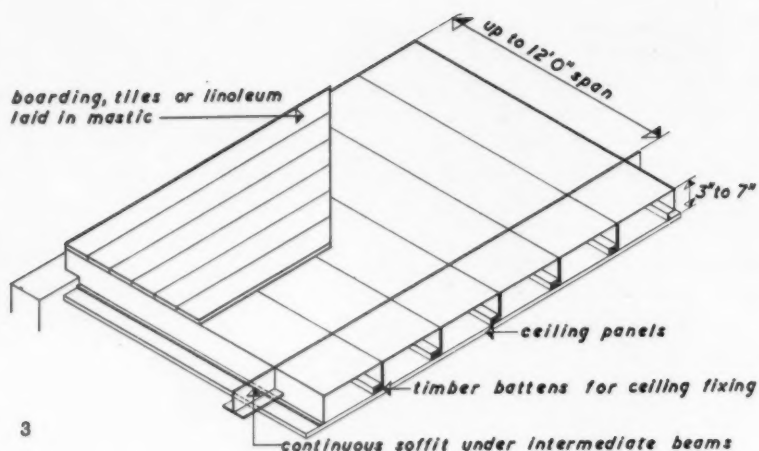
introduced one which takes advantage of the principle of the 'continuous beam,' and spans up to 15 feet in aluminium, and 17 feet in steel.

Messrs. Briggs' aluminium decking (Bitumetal) is amongst the lightest of all,

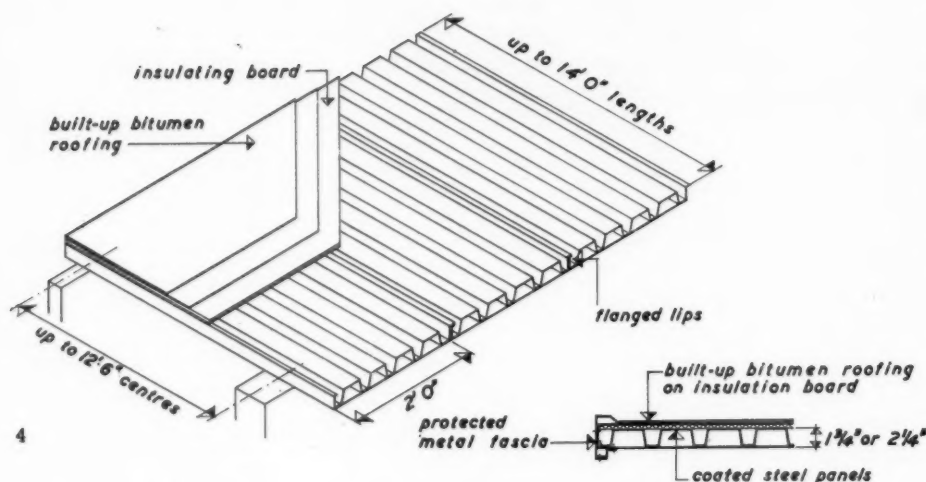


1, Anderson's Multi-span metal decking, and 2, Briggs' Bitumetal decking.





3

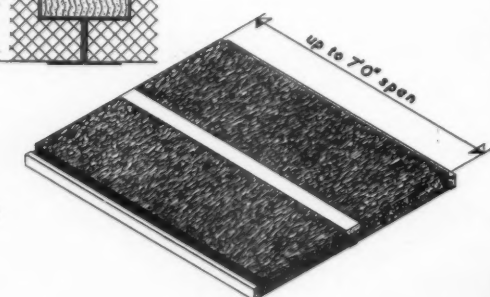


4

3, Ruberoid Steleflor decking, and 4, Robertson Q-Deck.

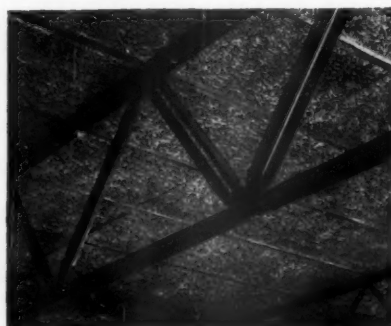


5



6

5, Thermacoast rebated channel reinforced wood wool slabs. 6 and 7, Halcrete interlocking reinforced wood wool slabs.



7

weighing 1 lb. square foot excluding finish; and 4-8 lb. square foot for the complete roof, depending on the covering.

The undersides of most metal deckings are ribbed, and the steel ones are usually finished with red oxide, 'stoved' on. Since insulating board is usually laid over the metal deckings, it is said that there is not much danger of serious condensation on the soffit and in the cavities; but because it is not possible to repaint the latter, they are sometimes protected by bituminous paint in addition to the red oxide. For those positions in which the heat insulation provided by the decking itself is considered adequate, and where the possibility of condensation would be correspondingly increased, Messrs. Ruberoid have introduced a galvanized decking.

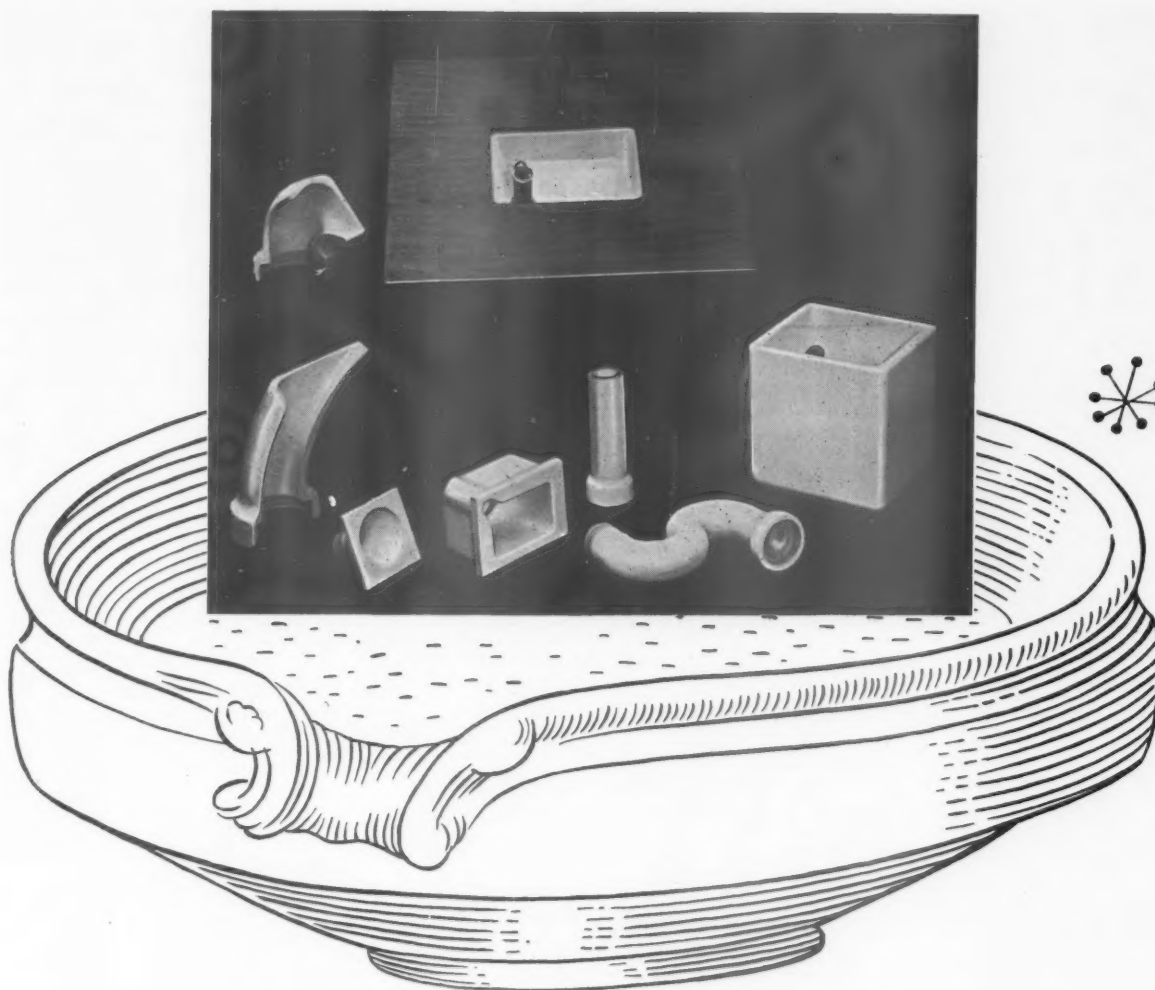
The manufacturers of the well-known RPM sheeting, Messrs. Robertson Thain Ltd., have recently introduced a new series of deckings and vertical wall panels known respectively as Q deck and Q panels. The deck is laid with a flat or ribbed soffit and the weather-proofing finish is laid on insulating board. All steel is protected with a metal coating and the soffit can be further protected with a special impregnated asbestos felt finish which the manufacturers recommend for positions which are specially corrosive or humid. End laps are swaged and side joints are lipped.

Messrs. Permanite, another firm of roof felt manufacturers, who also undertake asphaltting, produce both a typical steel metal deck called 'Permadek,' and a wood wool roofing system called 'Permanite insulated wood wool roofing.'

wood wool and strawboard

These materials were not produced primarily for deckings, but are both widely used in this capacity. In contrast with the metal deckings, they are themselves insulating materials.


Some manufacturers supply wood wool slabs with pressed steel channels fixed to the long edges, and with 2 inch thick panels, which are the most commonly used, the span is up to 7 feet. The slabs are 2 feet wide. Well-known examples of these reinforced slabs are those produced by Messrs. Thermacoast Ltd., Gyproc Products Ltd., The Marley Tile Co. Ltd., and Messrs. Halcrete Panels Ltd. Messrs. Thermacoast produce a 3-inch slab with a 2-inch channel, allowing a 1-inch cork strip to be inserted above the junction of the channels. This is intended to prevent



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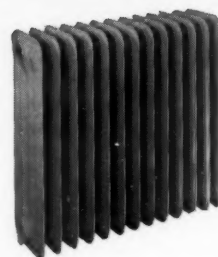


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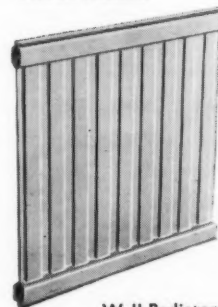
As your plans for central heating take shape, you will find in the Stelrad range of radiators a means of keeping heating efficiency in harmony with interior design.

Two well-known Stelrads are shown on the right, and an eleven inch two column curved radiator is shown in the picture above. Variations of these radiators are, of course, available.

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condensation forming on the bottom of the channels in humid atmosphere. They also produce a slab $2\frac{1}{2}$ inches thick, 1 foot 8 inches wide and 6 feet 8 inches long, spanning 3 feet 4 inches without channel reinforcement, and designed to fit in with the modular planning of schools.

Messrs. Halcrete Panels supply slabs up to 4 inches thick with edge reinforcement which may be formed with a tongue and groove to give extra strength and better alignment. The 4 inch slabs, thus reinforced, span up to 10 feet.

One of the main characteristics of wood wool is that it provides good thermal insulation economically ($U=.22$ BThU, etc., for 2 inch thickness). It can be cut and worked, and although a screed is necessary, this can accommodate services. The underside of a wood wool roof can be left unplastered (with or without spray painting), when a sound absorption of about 0.6 is achieved, or it can be plastered. 2 inch wood wool when used in a partition, plastered both sides with $\frac{1}{2}$ inch gypsum plaster, has a resistance to spread of flame graded as class 1, and a resistance to fire of one hour (grade D).

All in all, wood wool provides a satisfactory roof, but when pressed steel channels are used, there is an obvious danger of corrosion, since they cannot be repainted when once in position, and the initial protection has to be relied upon.

Strawboard is produced in this country by one firm, Messrs. Stramit Boards Ltd. who brought the process over from Sweden. It is lighter than wood wool (3.8 lb. square foot, compared with 5 lb. square foot for wood wool of equivalent thickness).

The panels are made 2 inches thick, 8 feet to 12 feet long, and 4 feet wide, and are designed to span across their width at either 2 feet cc. or 4 feet cc., depending on the load.

The value for thermal insulation compares with that of wood wool, it does not require a screed on the top, the soffit is smooth and clean and can be painted, or if required it can be plastered. Both the painting and plastering improve the resistance to the spread of flame, and the gradings for Stramit boards are: untreated—class 3, painted—class 2 and rendered—class 1.

Although the board is made of compressed straw, its resistance to fire is considerable. There is no grading for it applicable for its use in roofs or partitions, but two grades of fire check door are marketed, in one of which a Stramit core is covered with 6 mm. plywood, giving a

half hour check, and in the other a similar core is covered with 18 gauge aluminium giving a one hour check.

It is an organic material and suffers

if stored in damp places: one side is, however, covered with a bitumen impregnated paper to give some protection from rain before roofing felt is laid.

asbestos decking

Asbestos decking is, like the metal deckings, made specially for the purpose. Messrs. Turner's Cavity Decking is a well-established product, and, whilst providing a robust roof, is also very durable. It is heavier than many of the other deckings (10.8 lb. per square foot decking only), and its overall thickness of $4\frac{1}{2}$ inches is about twice that of many of the others.

It is available in even feet lengths from 5 feet to 10 feet, but it can be cut to special lengths with a saw.

Because of the cavity formed by the decking it provides a roof having a fairly low thermal transmittance value ($U=0.47$ BThU, etc.) without additional insulating material.

The Universal Asbestos Company have recently introduced a hollow insulated decking which is made in lengths up to 10 feet, and is in the form of a rigid

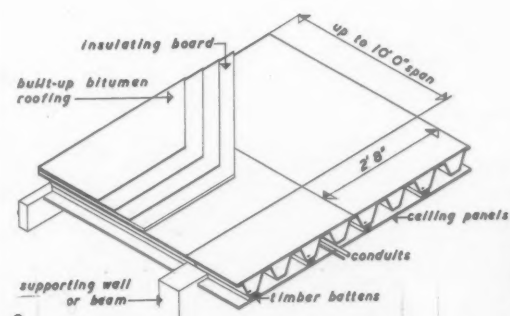
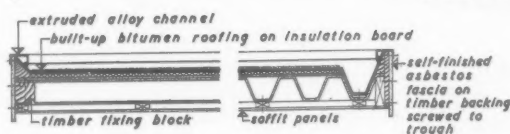
box unit, containing, if desired, glass silk for high thermal insulation.

The two types of asbestos decking described provide a flush soffit, but the V joints between panels and fixing screws remain visible. The soffit may, of course, be decorated with alkali-resisting paints or anti-condensation paints. The joints, however, are too wide to be filled safely, and the only satisfactory way of obtaining a completely smooth ceiling is to fix timber battens, plasterboard and plaster. To overcome this difficulty Messrs. Universal Asbestos Company are manufacturing a type of decking consisting of a flat asbestos sheet forming the top with a corrugated sheet fixed to the underside to give strength. Timber battens are bonded to the bottom of the corrugations to allow a ceiling to be fixed. This type of decking also spans up to 10 feet.



8

8 and 9 below, Turnall asbestos cement cavity decking.



9

10, Universal Asbestos Company's asbestos decking showing the timber battens bonded to the corrugations.



10

fabricated timber decking

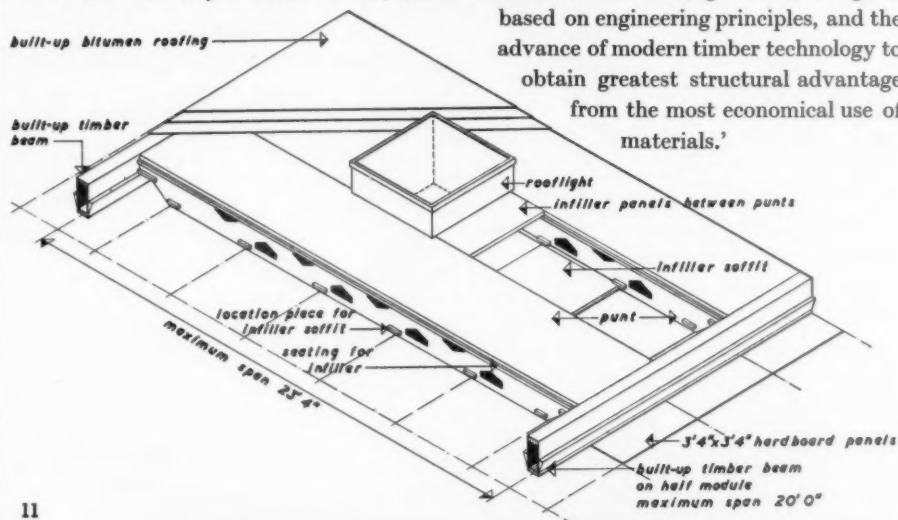
There are two notable and fairly new timber systems, one of which is known as 'Trofdek' made by H. Newsum Sons & Co. Ltd., and the other, the 'Punt System' made by C. D. Productions Ltd. One of the main differences between these and other deckings is that they can span up to about 24 feet, and they can therefore be used to span across the walls of a building or a whole room without intermediate beams.

The Punt system was designed by Messrs. Ove Arup & Partners, particularly for use in schools, and it has been used in several Hertfordshire schools built on the 3 feet 4 inches module. The Punts are 1 foot 4 inches deep and the bottoms of these form a flush ceiling. This can be of perforated hardboard with 1 inch glass silk inside to provide sound absorption. Services and light fittings can be accommodated within the units, and the framing of the unit is such that roof lights can be inserted in them.

The Trofdek is a corrugated panel made out of strips of plywood connected by solid softwood ribs. It weighs only 3 lb. square foot, and has great strength in relation to its weight. When used as a roof deck, sheet materials such as insulating board, or timber planks, are fixed to the top, and a suitable lining, if required, is fixed on the underside. The manufacturers are willing to give a written guarantee of 25

years against defects arising from normal wear and tear. It is made in four sizes from 6 inches to 12 inches deep, and the panels are 4 feet wide. As with other timber products, it has the advantage that it can be easily worked on site, and

it is interesting to note the introduction of these two deckings, making an economical use of the softwood which after years of scarcity is now available but relatively expensive. As the manufacturers say of Trofdek in their catalogue: 'the design is based on engineering principles, and the advance of modern timber technology to obtain greatest structural advantage from the most economical use of materials.'



11

11, The Punt System. 12, Trofdek timber decking.



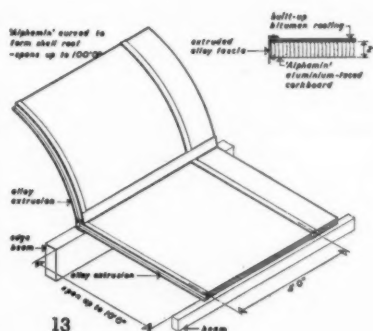
12

corkboard

'Alphamin' aluminium faced corkboard decking is in a class by itself in that it may be curved to a minimum radius of 6 feet. Made in slabs of 8 feet by 4 feet and 6 feet by 3 feet, and in thicknesses of 1 inch, 1½ inches, 2 inches, 3 inches and 4 inches, its weight varies from 1½ lb. per square foot for the 1 inch thickness to 3½ lb. per square foot for the 4 inch thickness. The U value is very favourable: .26 for the one inch, dropping to .07 for the 4 inch thickness, and the technique of fixing is remarkably neat.

Suppliers

Turners Asbestos Cement Co., Trafford Park, Manchester
17. Universal Asbestos Co., 8 Upper Grosvenor Street, S.W.1.
D. Anderson & Son, Stretford, Manchester.
William Briggs & Sons, Vauxhall Grove, S.W.8.
Robertson Thain Ltd., Ellesmere Port, Cheshire.
The Ruberoid Co., Commonwealth House, 1-19 New Oxford Street, W.C.1.
Thermacoust Ltd., 39 Victoria Street, S.W.1.
Halcrete (Precision) Panels Ltd., Stockley, West Drayton, Middx.
Stramit Boards Ltd., Packet Boat Dock, Cowley Peachey, Middx.
Permanite Ltd., 455 Old Ford Road, E.3.
Marley Tile Co., Riverhead, Sevenoaks, Kent.
Gyproc Products Ltd., Westfield, Upper Singelwell Road, Gravesend, Kent.
H. Newsum Sons & Co., Lincoln.
C. D. Productions Ltd., 30 Uxbridge Road, W.12.
Alphamin Ltd., 4 Dunston Street, Kingsland Road, E.8.



13

13 and 14, Alphamin corkboard sandwich decking.



14

134

[continued on page 136]



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4 THE INDUSTRY

GLASS TO GLASS CEMENTING

Some years ago German technicians overcame the long-standing problem of fixing glass direct to glass. The difficulty always consisted not in achieving an initial set but in ensuring that the cementing material would not lose its virtue with time. This has been resolved by using a cement that hardens only on the edge of the joint, the inner faces remaining—so it is claimed—permanently resilient. The joints so formed develop a strength which is comparable to that of ordinary plate glass, a quality which at once makes it possible to conceive of structures of modest scale which can be of glass alone.

This technique has now been brought over to this country by James Clark & Eaton who have acquired the manufacturing rights from Glasbau Hahn, of Frankfurt A.M., and who now provide a glass cementing service under the trade name of Clark-Eaton 'S.H.' Glass-Cement. On the Continent this technique has been mainly used for frameless show- and museum-cases (which have acquired the international name of 'Vitrines') for draught lobbies



Glazed screen to a wind lobby. A German application of glass to glass cementing.

and for long, continuous shop windows—for the cementing is accounted weather-resistant. Where it is desired to erect long walls of glass by this method it is usual to buttress the glass by means of fins about 6 inches deep, bonded at right angles to the surface. The bonded joints are, of course, plainly visible (they appear as a white line the exact thickness of the glass), but they are neater by far than cover strips. It is not possible to quote exact prices, but in general this method of cementing costs between 5 and 15 per cent more, job for job, than the ordinary method using coverstrips.

A PAINT HANDBOOK

One of the most ambitious items of this year's trade literature is Thomas Smith & Sons' *Handbook of Paints and Painting Practice*, which covers all the aspects of this difficult subject, from reflectance values, and the nature of colour through estimating for paintwork and on to specification for different surfaces and different climatic conditions. It is indeed excellent that Thomas Smith & Sons should give a lead in providing information of general use. But the handbook would be enhanced value to paint users if some of the technical issues were taken up in greater detail.

Cabinet Ironmongery

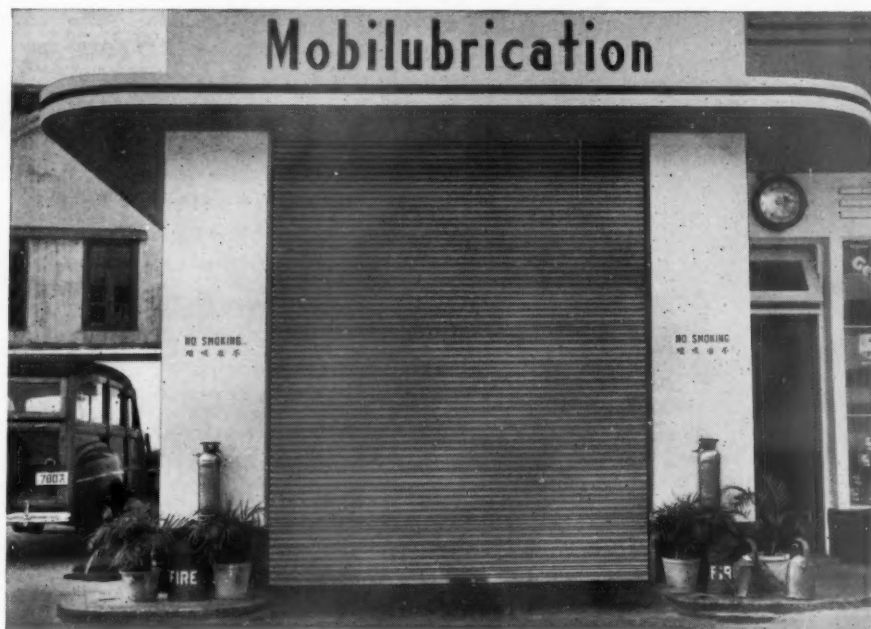
Note Distribution of Cabinet Ironmongery is in the main through factors. Many of the items loaned for photographing by individual factors, and therefore credited to them, are in fact available from other firms. In cases of difficulty Architects may apply to the National Federation of Ironmongers, Ruskin Chambers, Corporation Street, Birmingham, for names of factors in their neighbourhood. Local ironmongers are very often able to supply goods from the catalogues of the bigger factors. Firms in this article are: J. D. Beardmore & Co., 56-61 Cleveland Street, London, W.1. A. Oakden & Sons, Curtain Road, London, E.C.2. Dryad Metal Works, Sanvey Gate, Leicester. A. J. Binns Ltd., 29 Store Street, London, W.C.1. Nico Manufacturing Co., Icknield Way, Letchworth, Herts. Wilkes Berger Engineering Co., 147 Curtain Road, London, E.C.2. Linread Ltd., Clifton House, Euston Road, N.W.1.

[continued on page 138]

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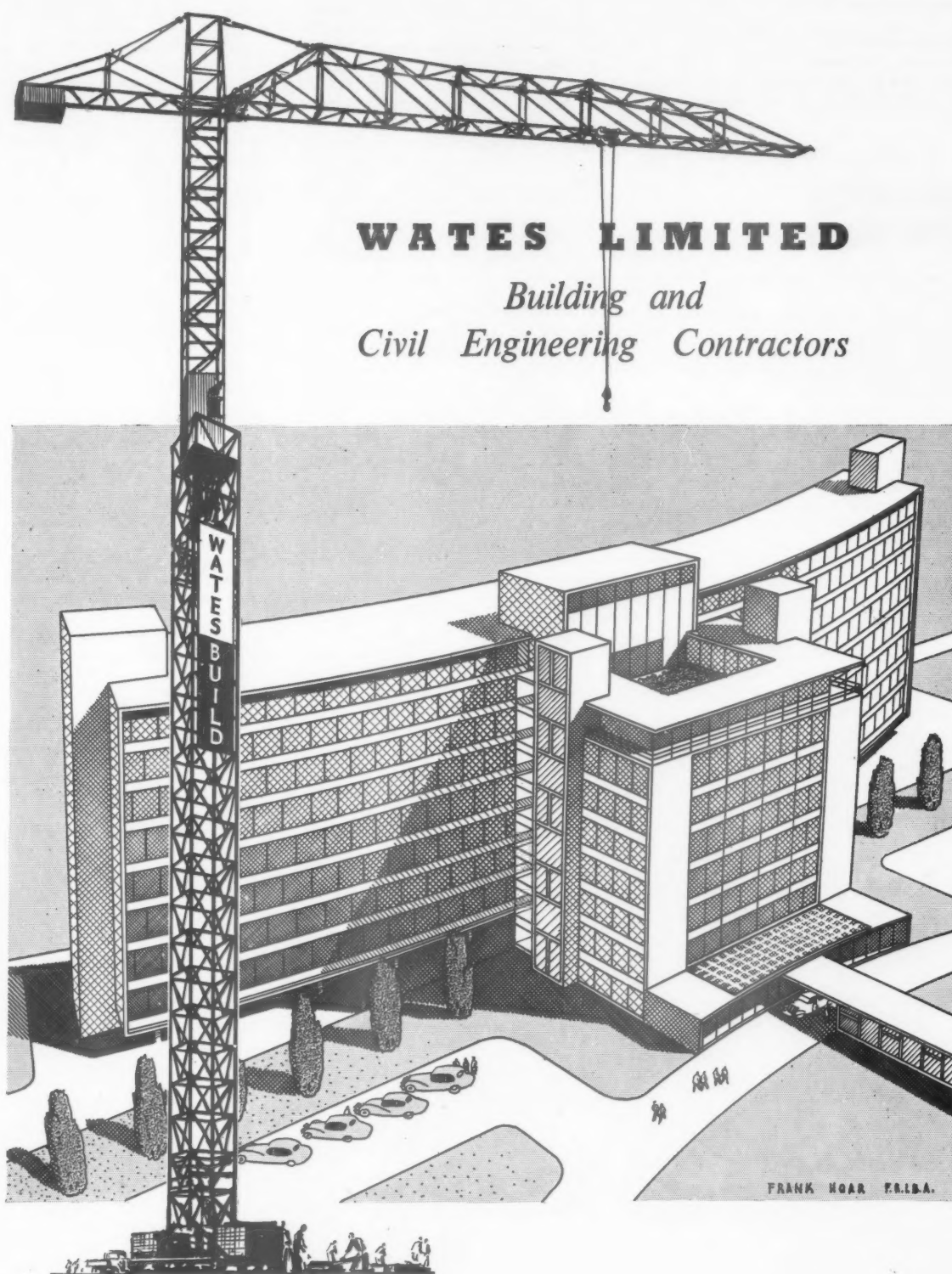
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Correction

In the article 'Sanitary Brassware' in the June issue it was stated that the 'Easilne' No. 5310, illustrated on p. 419, had no separate waterways; in fact, the waterways are divided until just before the point of discharge. The makers add that the reason why this is not a flush fitting mixer is that it is designed to allow for adjustment between tap hole centres.

CONTRACTORS etc

Flats at Pimlico, Director of housing: E. J. Edwards. **Architects:** Powell and Moya. **Assistant architect:** S. P. Skinner. **Consulting structural engineers:** Scott and Wilson, Kirkpatrick and Partners. **Consulting engineer for district heating:** S. B. Donkin. **Consulting engineers for heating installation inside flats:** J. Roger Preston & Partners. **Quantity surveyors:** E. C. Harris & Partners. **Resident engineer:** R. C. Buchanan. **Clerk of works:** E. A. Perry. **General contractors:** Gee, Walker & Slater Ltd. **Sub-contractors and suppliers:** glazing: Aygee Ltd. **Concrete floors and roof for blocks 26 and 31:** Flooring Contracts (London) Ltd. **Plastering:** McDonald Bros. **Glazed tiling:** Parkinsons (Wall Tiling) Ltd. **Heavy suspended boats scaffolding for block 21:** Scaffolding (G. B.) Ltd. **Electrical services:** Troughton & Young (Lighting) Ltd. **Lifts:** Express Lift Co. **Pressed steel tanks:** Braithwaite & Co., Engineers. **Basement tanking and felt roofing:** William Briggs & Sons. **Bricks:** A. Turner & Son. **Sanitary fittings:** Stitsons Sanitary Fittings Ltd.; General Light Castings Co. **Architectural ironwork and balcony fronts:** F. A. Norris & Co. **Basement screens and partitions:** T. W. Palmer & Co. **Asphalt paving:**

Excel Asphalte Co. Cupboard doors: Walter Lawrence & Son. **Metal windows:** The Standard Metal Window Co. **Pumps:** W. H. Willcox & Co. **Ironmongery:** Alfred G. Roberts Ltd. **Kitchen fittings:** Jayanbee Joinery Ltd. **Floor finishes:** The Marley Tile Co. **Balcony division screens:** Rippers Ltd. **Metal windows, block 21, 18, 26 and 31:** The Crittall Mfg. Co. **Window balcony screens for block 26:** G. A. Harvey & Co. (London). **Terrazzo cills:** W. B. Simpson & Sons. **Pavement lights:** J. A. King & Co. **Portland stone cills:** Glostone Ltd. **Plate racks:** Modern Industries Ltd. **Roof lights:** Pilkington Bros. **Nameplates:** I. R. S. Ltd. **Road surfaces to East-West road:** The Limmer & Trinidad Lake Asphalt Co. **1/4 inch cork insulation board to walls:** Haskel, Robertson & Co. **Aluminium sheeting to refuse chamber doors:** Frederick Braby & Co. **Rubber based enamel paint:** Inertol Co. **Paint:** Hadfields (Merton) Ltd. **Distempers:** The Walpamur Co. **Relay wireless and television:** British Relay Wireless Ltd. **District heating mains:** Sulzer Bros. (London). **Heating and hot water:** G. N. Haden & Sons.

Technical College at Colchester, Architects: H. Conolly, County Architect; D. Senior, Deputy County Architect; W. C. B. Smith, Assistant County Architect (Education); N. P. Astins, Section Assistant Architect; Mrs. D. M. Nicholls and P. R. Cansdale, Assistant Architects. **General contractors:** Contract 1 (RC frame and foundations, roads and drains): Joseph Moss & Son. **Contract 2 (superstructure and finishings):** Hutton (Builders) Ltd. **Sub-contractors and suppliers:** Contract 1, precast concrete frame to workshops: London Ferro-concrete Co. **Contract 2, bricks:** Proctor & Lavender Ltd; Eastwoods Ltd. **Windows:** The Crittall Mfg. Co. **Patent glazing:** Faulkner Greene & Co. **Roofing felt:** Mells Asphalte Co. **Heating and ventilation:** Corton & Bergin Ltd. **Electrical work:** M.G. (Colchester) Ltd. **Flush doors:** Walter Lawrence & Son. **Locks and door furniture:**

Lockerbie & Wilkinson Ltd. Sliding, folding partitions: Esavian Ltd. **Floor finishes:** woodblock: Hollis Bros. **Terrazzo:** Marriott & Price Ltd. **Tile:** Carter & Co. (London) Ltd. **Granolithic:** Stuart's Granolithic Co. **Acrotile:** Rowan & Boden Ltd. **Cork:** E. J. Elgood Ltd. **Acoustic spray:** Turners Asbestos Cement Co. **Sliding, folding metal gates:** Bolton Gate Co. **Rolling shutters:** Shutter Contractors Ltd. **Sanitary fittings:** B. Finch & Co. **Glazed tiling:** Carter & Co. (London) Ltd. **Staircase balustrades, etc.:** Light Steelwork (1925) Ltd. **Cloakroom equipment:** Cloakroom Equipment Ltd. **Lifts:** Marryat & Scott Ltd. **Lettering (applied and painted):** The Lettering Centre. **Cement glaze wall finish:** Cement Glaze Ltd. **Precast terrazzo lavatory partitions:** The Mosaic & Terrazzo Co. **Decorative lighting fittings:** Troughton & Young (Lighting) Ltd. **Clocks:** Gent & Co. Ltd. **Joinery:** R. Cattle Ltd. **Lighting fittings in workshops:** (Enfield Catenary System): Enfield Cables Ltd. **Paint:** Screeton Paintmaker Ltd.; Inertol Co. Ltd.

Diagnostic Centre at Corby, Architect: R. Llewelyn Davies. **General contractor:** Alfred Tailby & Son. **Sub-contractors and suppliers:** felt roofing: William Briggs & Sons. **Wooden windows:** Boulton & Paul Ltd. **Heating and plumbing:** G. N. Haden & Sons. **Electrical installation:** Troughton & Young (Lighting) Ltd. **Flooring:** Horsley Smith & Co. **Sanitary ware and fittings:** Dent & Hellyer Ltd. **Ironmongery:** Alfred G. Roberts Ltd. **Blinds and curtain contractors:** J. Avery & Co. **X-ray apparatus:** A. E. Dean & Co. **Curtains:** Hemmings Bros.; Hilling & Co. **Furniture:** Finmar Ltd.; Furniture Industries Ltd.

Secondary School at Feltham, Architects: C. G. Stillman, County Architect; E. Mason, Area Architect; L. J. Fox, Architect-in-charge. **Quantity surveyors:** Mercer & Miller. **General contractors:** Taylor Woodrow Construction Ltd. **Sub-contractors:** plastering: Alan Milne Ltd. **Floor and wall tiling:**

[continued on page 140]

GENERAL CONTRACTORS

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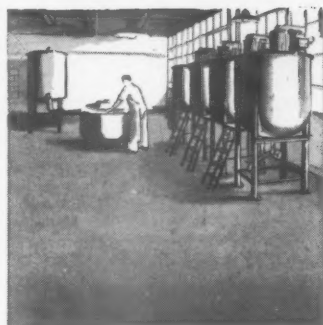
(Illustrated in this issue)

Architect: H. Conolly, F.R.I.B.A., Essex County Architect.

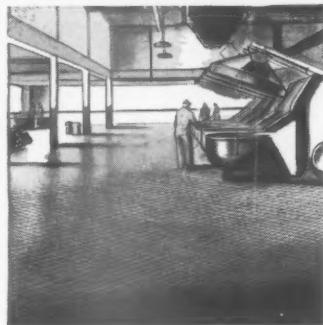
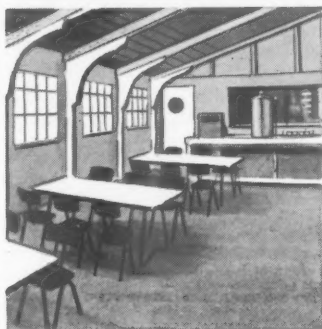
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continued from page 138]

Parkinsons (Wall Tiling) Ltd. Floor and sill tiles: Langley London Ltd. Painting: C. & T. Painters Ltd. Glazing: Aygee Ltd. Precast floor units: Fabricrete Products Ltd. Facing bricks: Henry J. Greenham (1929) Ltd. Structural steelwork: Boulton & Paul Ltd. Prestressed concrete floor and roof units: Concrete Ltd. Foundation bricks and primrose facings: W. T. Lamb. Ironmongery: James Gibbons Ltd. Precast concrete facing slabs: W. S. Try Ltd. Metal door frames: Henry Hope & Sons. Drinking fountains: T. A. Harris Ltd. Firebricks: Buxton Dawson & Co. Bituminous felt roofing: Ragusa Asphalte Co. Dome lights: T. & W. Ide Ltd. Metal windows and doors: John Thompson Beacon Windows Ltd. Slate copings, sills, etc.: J. Williams & Co. Heating, hot water and gas services: Stitson, White & Co. Cloakroom and locker fittings: Clark Hunt & Co. Plumbing: Matthew Hall & Co. Pressed steel gutters: G. A. Harvey & Co. Sanitary fittings: W. N. Froy Ltd. Electrical installation: Watson & May. W.C. partitions: Venesta Ltd. Woodblock flooring: Hollis Bros. Linoleum flooring: The Great Metropolitan Flooring Co. Rubber floor tiles: Brynmawr Rubber (Sales) Ltd. Paints: Docker Bros. Wallpapers: A. Sanderson & Sons. Cork flooring: Aubanel & Alabaster Ltd. Extract ventilation: Greenwoods & Airvac Ventilating Ltd. Hornton stone paving: London & Sussex Merchants Ltd. Precast terrazzo: Terrazzo & Tile Products Ltd. Balustrading: Kingsmill Metal Co. False ceilings: Sundeala Board Co. Electric clocks: Gent & Co. Copper roof: Broderick Insulated Structures Ltd. Roof tiling and floor finish to Schoolkeeper's House: Marley Tile Co. Tarpaving and paths: Chittenden & Simmons Ltd. Special light fittings: Frederick Thomas & Co. Lathing for suspended ceilings: W. H. Colt (London) Ltd. Glass roof lights: J. A. King & Co. Roller shutters: G. Brady & Co. Lightning conductors and flagstaff: J. W. Gray & Son. Laboratory fittings: Walker Symondson Ltd. Entrance gates and curtain tracks: N. F.

Ramsay & Co. Library fittings and joinery: Builders Supply Co. (Hayes). Acoustic tiling and gymnasium ceiling: John Dale Ltd. Stage curtain track: Hall & Sons. Roof to cycle shed: Wm. Briggs & Sons. Cycle parking blocks: Stelcon Ltd. Gymnasium only: r.c. prestressed frame: Taylor Woodrow Construction Ltd. Internal facing bricks: Uxbridge Flint Brick Co. Metal windows: Aygee Ltd. Gymnasium equipment: Educational Supply Association Ltd. Heating and hot water installation: Heath & Co.

Crematorium at Oldham, Lancs. Architects: Sanger & Rothwell. **Quantity Surveyors:** Lay & Partners. **General contractors:** T. Partington & Son (Builders). **General foreman:** M. Mooney. **Sub-contractors:** asphalt: J. White & Son. **Stone masonry:** S. & J. Whitehead Ltd. **Structural steel:** Spooner & Seth Ltd. **Tiles:** Langley London Ltd. (floor); Pilkington's Tiles Ltd. (wall). **Glass:** Pilkington Bros. **Timber strip flooring:** A. Vigers & Sons. **Central heating:** G. N. Haden Ltd. **Boilers:** Ideal Boilers & Radiators Ltd. **Electric wiring:** Frank Wall & Co. **Electric light fixtures:** Merchant Adventurers of London Ltd. and Arthur Greaves (Lees) Ltd. **Plumbing:** T. Fish Ltd. **Sanitary fittings:** Morrison Ingram Ltd. **Stairtreads:** Ferodo Ltd. **Door furniture:** Laidlaw & Thomson Ltd. **Casements:** George Wragge Ltd. **Iron staircases:** J. Davenport Ltd. **Plaster:** S. Robinson. **Joinery and church fittings:** B. & J. Smith Ltd. **Marble:** Nine Elms Stone Works. **Tiling:** J. Duncan (Oldham) Ltd.

Restaurant in Wigmore Street, London. Architect: James A. Crabtree, assisted by Percy Rickman. **Sub-contractors:** thermoplastic tiles: Marley Tile Co. **Glass suppliers:** Chance Bros. **Waterproofing materials:** Messrs. Sica (suppliers). **Central heating:** ventilation: Heath & Co. **Gas fixtures:** Bratt Colbran Ltd. **Gas-fitting:** plumbing: Messrs. Murphy. **Electric light fixtures:** Merchant

Adventurers of London Ltd. and Troughton & Young Ltd. **Door furniture:** Comyn Ching & Co. **Folding doors gear:** Hill Aldam & Co. **Sunblinds, terrace tiling, shop front signs:** Roffé Decorations Ltd. **Garden furniture lent by:** Ernest Race Ltd.

Flats at Catford, London. Architects: Fry, Drew & Partners. **Consulting engineers:** Ove Arup & Partners. **Quantity surveyor:** Oswald E. Parratt. **General contractor:** Wates Ltd. **Bricks:** Uxbridge Flint Brick Co. and Highbrooms Brick & Tile Co. **Special roofings:** D. Anderson & Son. **Patent flooring:** New Floor Installation Ltd. **Gasfitting:** South Eastern Gas Board. **Electric wiring:** Lewisham Borough Council. **Casements:** Crittall Manufacturing Co. **Metakwork:** Allen & Greaves Ltd. **Shrubs and trees:** J. Burley & Sons.

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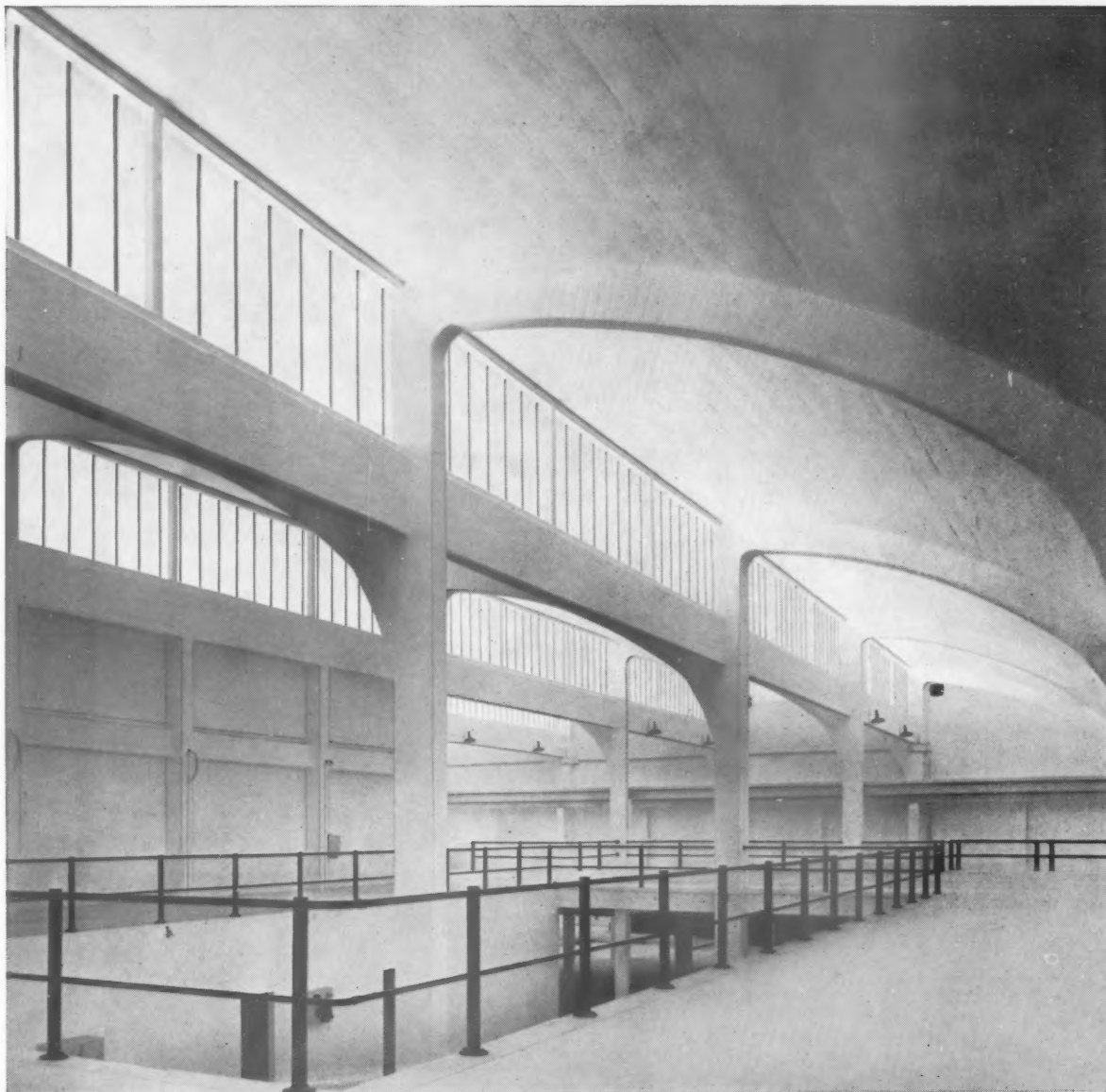
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